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"Gentleman, are you a poacher or a wildlife conservator?"

The Goral

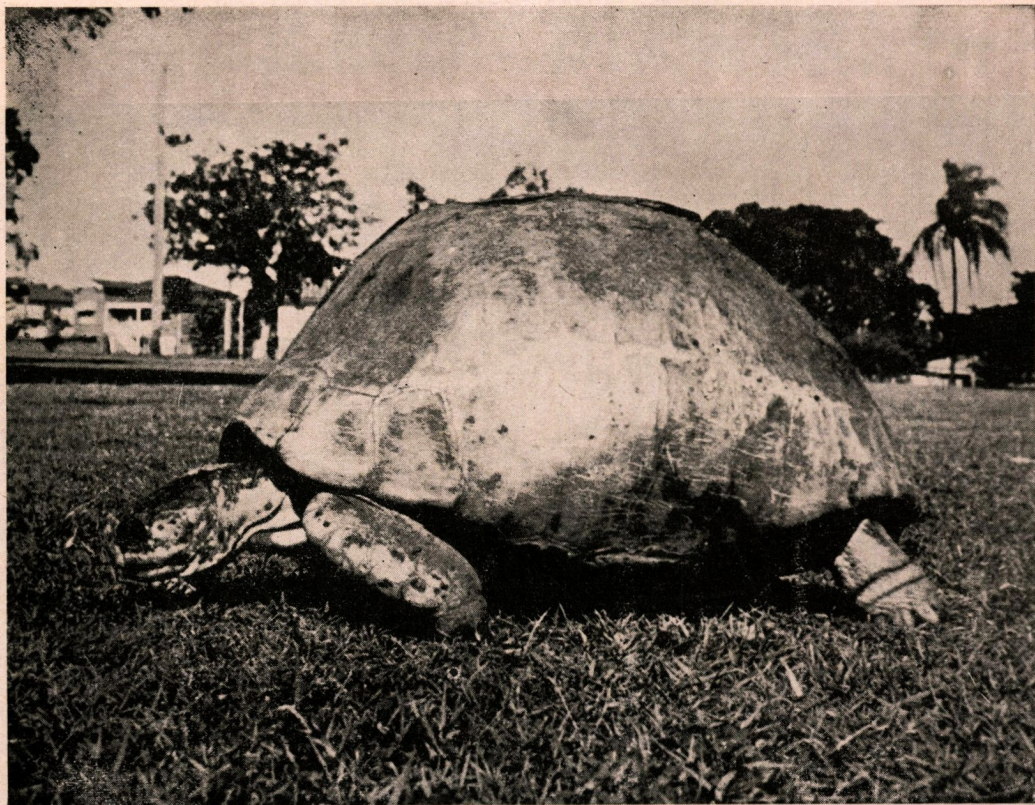
Photo by Shiv Prasad



Old Tortoise at Home in Australian Zoo

The Australian city of Bundaberg, Queensland, is the home of the world's oldest living creature, according to zoological records. A land tortoise (*Testudo radiata*) from Madagascar, known as Terty, is 134 years old. No other reptile or any animal living in captivity at present is known to be as old as Terty. And apart from two other tortoises, Terty may well hold the all-time age record. Terty, a female, was donated to Bundaberg's Alexandra Park Zoo in 1964 by Miss E. Powe whose family had the tortoise as a pet for five generations. But Terty's fame remained in obscurity until 1980 when a paper on her long life and provenance was published by Mr. Klaus Lehmann, of Frankfurt, Germany, in the journal *Salamandra*. Mr. Lehmann visited Alexandra Park Zoo at Bundaberg in 1979 while touring Australia. He was fascinated by Terty and by the fact that, according to the notice nailed to her enclosure, she was very old.

TERTY AT ALEXANDRA PARK ZOO, BUNDABERG



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PRADEEP SANKHALA

Wild Life Week 1980

PRIME MINISTER'S MESSAGE

As in previous years starting from today we celebrate the Wild Life Week. The fact that this coincides with Gandhi Jayanti has special significance because Mahatma Gandhi stood for tolerance and love for all living beings. It is appropriate that on his birth anniversary every year attention should be focussed on man's duty and responsibility towards other forms of life, specially the flora and fauna in the natural state, generally known as 'Wildlife'.

Most people do not realise the value of Wildlife for human existence. Man survives as part of the biosphere, which is made up of different communities of living organisms—plants, animals, human beings. Everything in the world is interrelated and all are mutually dependent. By protecting wildlife we express our concern for all life and thus for our own.

The Government attaches high importance to the preservation of wildlife and the education of the public in this regard. As Chairman of the Indian Board for Wild Life, I urge all people to co-operate with our efforts.

Sd/-

(Indira Gandhi)

VANAMAHOTSAVA 1981

Vanmahotsava being celebrated during monsoon every year with all the fan fare possible may prove a boon to the country only if the trees planted now could be looked after and not allowed to die out. We welcome Vanmahotsava and look forward to greener cities and hills and not deserts of brick and mortar and denuded hill sides causing erosion and floods.

Planting saplings will not do, as they will take long to grow.

What is required is very careful and selective felling of existing forests and strict protection of trees not marked for felling. Unfortunately we have very discouraging news from many parts of the country from Kashmir to Simlipal (Orissa). A well planned rape of Simlipal National Park is on for grabbing timber and land for cultivation.

On one pretext or another, protests fall on deaf ears and even the Director of Simlipal Tiger Reserve appears to be helpless in the matter.

Newspapers report of illegal denudation of valuable forests in Kashmir and the once green Vindhya hills and Kaimur range in Mirzapur District are now bare rocks and eroded hillsides to a great extent. All wildlife is scarce and endangered there.

The cost of fuel being so high villagers invade the forests in large numbers and fell the forests to sell the fuel in the nearest market and earn many times more than their daily wages in agricultural operations. Trucks operate to take out illegally felled timber and fuel to the Cities nearby. All this applies to most parts of North India.

All this needs to be looked into urgently by the highest authorities.

Prestigious Projects

We have the Project Tiger, Project Crocodile and the operation MUSK deer for saving the Tiger, the Gharial and the MUSK deer which are seriously endangered even now because of loss of habitat and the avarice of the smugglers depending on poachers.

Mighty Mahashir

The Mighty Mahashir—the Tiger of the hill streams providing one of the most thrilling sporting experiences is still available in India but breathing its last.

Mahashir is being wiped out by illegal bombing, trapping, snaring, netting with nets of small mesh, electrocuted, poisoned and because of loss of spawning grounds through construction of dams for canals and electric generation which do not provide fish ladders.

The need today is a Project to save the Mighty Mahashir.

Tomorrow will be too late.

CITES Conference

Speech by Dr. Lee M. Talbot, Director General of the International Union for Conservation of Nature and Natural Resources

On behalf of the International Union for Conservation of Nature and Natural Resources (IUCN), I wish to express our great appreciation to the Government of India for their hospitality and their fine arrangements for this important meeting; to the hard working CITES Secretariat for their on-going efforts to assure the operation of the Convention and their excellent preparations for this meeting; and most particularly to the States Parties for whom the Convention exists and through whom it is effected.

It is particularly fitting that this third and largest yet meeting of the Conference of the Parties to CITES should be held in India. At the 1972 United Nations Conference on the Human Environment, the Government of India introduced the "Wildlife Principle" which was unanimously adopted by the 113 nations represented there as Principle 4 which reads as follows:

"Man has a special responsibility to safeguard and wisely manage the heritage of wildlife and its habitat which are now gravely imperilled by a combination of adverse factors. Nature conservation including wildlife must therefore receive importance in planning for economic development."

India also was one of the early nations to ratify CITES in 1976, one year after it came into force.

IUCN has had close links with India for some 30 years. India is a State member of IUCN, and we also have two valued Government Agency members and three non-governmental organization members from this country. Our Tenth General Assembly in 1969 was opened here in New Delhi with an inaugural address by Prime Minister Gandhi. We have had a number of joint field projects and meetings, the latest of which was the meeting of the IUCN Species Survival Commission held here during the past 10 days. This is particularly relevant to this present meeting since the Species Survival Commission is the arm of IUCN that is primarily concerned with defining the status of species. From this it should be clear that IUCN regards India as a particularly valued colleague in conservation.

Having used the word "conservation" I feel obligated to define it because there are probably few words in the English language which have more widely varying usages. In the sense that IUCN uses it, "conservation" refers to living resources. We have defined such conservation as "the management of the human use of the biosphere so that it may yield the greatest sustainable benefit to present generations while maintaining its potential to meet the needs and aspirations of future generations."

Within the definition, "conservation" has three basic objectives:

- (1) To maintain essential ecological processes and life support systems;
- (2) To preserve genetic diversity; and
- (3) To ensure that the utilization of living resources and the ecosystems in which they are found is sustainable.

This definition and particularly objectives (2) and (3) are directly relevant to CITES. What CITES seeks to do is to manage one aspect of human use of the biosphere—international trade—for precisely the purpose in the definition, i.e., to yield sustainable benefit to present and future generations. And in terms of the objectives, CITES seeks to preserve genetic diversity through protection of endangered species in order to ensure that the utilization of the species involved is sustainable.

IUCN has over 470 members from 109 nations comprising 55 Sovereign States, 116 Government agencies and about 300 non-governmental organizations. While the conservation objectives of IUCN are broad as I have indicated above, the interests of some individual members may be much more restricted. In terms of wild flora and fauna, some members are more concerned with protection and others with utilization, and they may take individual positions accordingly. These positions, however, do not necessarily reflect the position of the IUCN any more than the individual positions of the Parties to CITES represent the policy of the Conference of the Parties. IUCN and CITES have procedures for determining their policy directions. In the case of IUCN its base policy is best reflected in the World Conservation Strategy. This is a document prepared by IUCN with the collaboration of the United Nations Environment Programme and the World Wildlife Fund and published with the endorsement of the United Nations Food and Agriculture Organization and the United Nations Educational, Scientific and Cultural Organization. It was released simultaneously just one year ago in the capitals of 35 nations worldwide, among them New Delhi. Most of these presentations were presided over by heads of state and government emphasising the level of endorsement of the Strategy by the nations involved.

United Nations Secretary General, Dr. Kurt Waldheim, described the Strategy as "a remarkable pooling of international resources which has resulted in an unprecedented degree

of agreement on what should be done to ensure the proper management and optimal use of the world's living resources not only for ourselves but for future generations."

The Strategy defines IUCN's basic objectives and provides the framework for our on-going activities. Within this context, we regard CITES as a particularly significant international instrument, both in its substance and in terms of IUCN's relationship to it. In terms of coverage and worldwide adherence CITES is clearly the most comprehensive international conservation agreement and the speed with which nations have adhered to it has been unprecedented. There has, for example, been a 30% increase in the number of Parties in the past biennium alone, which also provides an important measure of the significance which the world's governments accord to the Convention and its objectives. In terms of general public recognition, CITES is probably the best known of the international conservation agreements.

CITES as a formal instrument has been in existence since 1973 and in effect since 1975. IUCN's involvement with it, however, goes back at least to 1960. The Seventh General Assembly of IUCN meeting in Warsaw passed a resolution "That the IUCN should urge all governments who do not yet restrict the importation of rare animals in harmony with the export laws of the countries of origin to do so now and thereby support the efforts of those countries to preserve animals in danger of extermination." In 1961 IUCN organized the Conference on Conservation in Modern African States in Arusha, Tanzania, which concluded that an international agreement controlling trade in endangered species was essential if the developing nations of that region were to successfully manage their own wildlife and realize the benefit from it. Two years later at the Eighth General Assembly of IUCN in Nairobi a resolution was passed calling for the preparation of a convention on the export, import and transit of endangered species. Subsequently, IUCN prepared and circulated internationally several drafts of the Convention and assisted with the preparations and provision of a secretariat for the Plenipotentiary Conference held in Washington in 1973 at which the present CITES Convention was signed.

The actual administration of the Convention Secretariat has since 1974 been carried out by IUCN, and I believe that this has produced good results. Because of the prior and on-going work of IUCN in the conservation of endangered species and as a result of the active participation of the international expert groups of the IUCN Species Survival Commission, this arrangement has probably represented the most rational way of using the limited resources available for a task which is worldwide in scope and continuing in nature.

These brief historical comments have direct bearing on two questions that periodically arise in connection with CITES. The first, usually asked by press from the industrialized North, asks, "is CITES not an example of the industrialized North imposing its conservation ethics on the developing South?" I believe the Arusha origins show clearly that if anything

the reverse is true. The southern nations assembled at Arusha emphasized that unless there was control over the demand in the North, they could not safeguard the supply, i.e. the endangered wildlife within their borders. The illegal export trade of wild flora and fauna represents a total loss to the country of origin—loss of the revenues the legal trade would bring, loss of the resource base and the on-going loss of economic and other values to the country which this lost resource represents.

The second question, more pertinent to this meeting is often phrased as "Is CITES a preservationist convention or a traders' convention?" As viewed by IUCN, it is neither exclusively, it is a conservation convention which through the regulation of trade seeks to avoid the loss of species and to assure the sustainability of the yield of benefits from wild flora and fauna to present and future generations.

Looking ahead I would like to stress several points:

Wild flora and fauna are at greater risk now than ever before. The Global 2000 report prepared by the United States Government indicates that if present trends continue, by the year 2000, 15 to 20% of all living species of plants and animals will be extinct. At the same time CITES has made significant accomplishments as have other international and national efforts. We have neither cause for complacency nor despair. As habitat shrinks, it becomes all the more important to regulate the trade in wild species involved to assure that it can be sustained. If CITES and other complimentary conservation efforts succeed IUCN would expect to see—and would certainly support—a movement of species from Appendix I to Appendix II to off of the Appendices entirely. At present, as the Secretariat has noted, the trend is the other direction. This may represent an understandable lag in the recovery time of species under CITES protection, it might reflect an information time lag, or actual deteriorating conditions. Clearly this must be monitored and analysed carefully.

IUCN views the present arrangement with the CITES Secretariat at our new headquarters in Gland, Switzerland, as eminently satisfactory. While IUCN handles the administrative matters for the CITES unit under the joint project arrangement with UNEP, the CITES Secretariat interacts directly with the Parties and in all practical terms operates as an independent entity. For its part IUCN regards CITES as an important component of international conservation and one which deserves all of the support we can provide. Accordingly CITES has access to facilities and as necessary to some personnel assistance at our headquarters and, far more important, it can utilize the unique worldwide network of expertise which is represented by IUCN's combined governmental and non-governmental membership and the expert network of our Commissions. CITES has been making extensive use of our Species Monitoring Units located at Kew and Cambridge in the UK along with our Trade Monitoring Unit, and of the Environmental Law Centre at Bonn. The UK

facilities are currently being enlarged. Among other things a more comprehensive computerized system will be installed next month for monitoring of flora and fauna. In addition IUCN with World Wildlife Fund have provided technical assistance to CITES in the amount of over \$ 100,000 in 1980/81; in the form of projects ranging from the development of forgery proof security forms for CITES permits to examinations of the rhino horn trade. I should note in passing that while the number of Parties to the Convention has increased by 30% in the past biennium the CITES Secretariat has remained at the same size, i.e. just five persons. I believe that this is a tribute to their hard work and the inherent efficiencies of the present arrangements.

Finally, I would like to re-emphasize the importance of CITES within the context of the World Conservation Strategy; the basic message of which is that conservation and economic development are interdependent and mutually reinforcing. On a global basis, conservation cannot succeed without development, and development cannot succeed and be sustainable, without conservation. The bulk of the international trade in endangered species is a part of the "North-South" situation in world trade and politics. The dominant pattern in this trade is a steady flow from the developing "Southern" part to the industrialized "Northern" part of the world. As I have emphasized, those who originated and drafted this Convention were fully aware of this important dimension, and CITES focusses on assuring that the values of wild species are sustainable for the long-term benefit of both North and South.

Thank you very much.

Estimated Population of Tigers in India (1979)

1. Tamil Nadu	65	12. Andhra Pradesh	148
2. Maharashtra	160	13. Meghalaya	35
3. Kerala	134	14. Manipur	10
4. W. Bengal	296	15. Tripura	05
5. Orissa	173	16. Mizoram	65
6. Karnatak	156	17. Nagaland	102
7. Bihar	74	18. Arunachal Pradesh	139
8. Assam	300	19. Gujarat	07
9. Rajasthan	79		
10. Madhya Pradesh	579		
11. Uttar Pradesh	487		
		Total	3014

All remaining states of India have no tigers.

Speech by the Union Minister for Agriculture, Rural Reconstruction and Irrigation

RAO BIRENDRA SINGH

At the very outset, may I say that I am delighted to be here this morning for the opening of this Conference, and I extend a warm welcome to all the participants from different countries of the world who have gathered here on this occasion.

I am aware that sixty-seven countries have already become Contracting Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora. This is certainly an achievement considering the fact that the Convention came into force only about five years ago. It has thus acquired an importance of its own in the field of international cooperation and we are happy that the Third Conference of the Parties to this Convention is being held in India and is being hosted by our Government.

The very *raison d'être* of this Convention is the concept of "Conservation" and India's history, tradition and folklore is steeped in this concept. While launching the World Conservation Strategy in India a year ago, our esteemed Prime Minister Smt. Indira Gandhi said: "The interest in conservation is not a sentimental one but the discovery of a truth well known to our ancient sages. The Indian tradition teaches us that all forms of life—human, animal and plant—are so closely inter-linked that disturbance in one gives rise to imbalance in the other." It is thus befitting that India is providing the venue for the get together of all those committed to this ideal.

In recent years, more particularly during the past decade, there has been considerable concern among the community of nations regarding the rapid pace at which living natural resources are declining all round the world. This concern is well justified because the prospects for the future are indeed grim. According to "The Global 2000 Report," which has evoked great interest around the world and is perhaps the most recent study in this field, "serious stresses involving population, resources and environment are clearly visible ahead.....the world's people will be poorer in many ways in the year 2000 than they are today.....and the environment will have lost important life-supporting capabilities." According to an estimate prepared for the study, in the next two decades, about 15 to 20 per cent of the earth's total species of plants and animals may become extinct, if the present trends continue. This works out to a loss of about 500,000 species. Extinction on this scale is without precedent in human history and the consequences are far too staggering to recount. Most of this havoc is attributed to destruction or loss of habitats, resulting from clearing or degradation of forests, especially the tropical forests with the largest storehouse of plant and animal species.

The second biggest cause for the extinction of species is over-exploitation for commercial interests or trade, and it is well known that big money is involved in this business. World trade in wildlife and its products is now a phenomenon to reckon with and poses a major threat to the survival of species and their environment. Perhaps the most effective way of dealing with this threat on a global scale is through the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and it is a matter of great satisfaction that so many nations of the world already subscribe to its ideology and objectives. Yet, so long as non-members continue to outnumber the members of the Convention and as long as the ranks of the former include unscrupulous traders in wildlife and forest produce, the effectiveness of CITES is bound to be partial. Of course, it is equally necessary that member nations perform as they should and implementation follows the spirit of the Convention. These are matters to which you would no doubt be addressing yourselves during the next few days. I sincerely hope the outcome would further strengthen the aims as well as the implementation of this international agreement.

As far as India is concerned, we have subscribed to the philosophy of CITES since its inception. India is a Contracting Party to the Convention since 1976, soon after it came into existence. Steps have been taken to implement the provisions of CITES by setting up a network of national management authorities along with four regional offices as well as scientific authorities operating in direct communication with each other and with the CITES Secretariat. The schedules to the Central law on Wildlife Protection have been amended suitably so as to include more species of wild fauna and flora as well as to provide for greater protection and more effective control on trade in this area. This approach is also reflected in the export policy on wildlife and its products, which has introduced general control and regulation in this field. Some live animals or birds or products thereof are totally banned for export, keeping in view their status in the country and the overall implications from the conservation angle.

Nature has endowed India with such abundant and varied fauna and flora that it compares favourably with that of any other region of the world. Of course, as elsewhere, it is now in serious jeopardy by human competition for food and habitat. The two decades covering the 50's and 60's witnessed massive and unprecedented destruction of our natural living resources and their environment. Fortunately, however, during the past one decade there has been a significant change of approach and a new sense of awareness, inspired no doubt by the repeated exhortations of our Prime Minister, Smt. Indira Gandhi, whose commitment to this cause is known universally. As a result, there is now growing concern in this regard and, under Central guidance and leadership, steps are being taken not only to protect and preserve what remains of our wild fauna and flora, but also to devise ways and means of augmenting this priceless natural heritage. The main thrust is on the following lines:

- (a) To develop appropriate management systems for Wildlife Resources and to integrate these with rural development to the extent possible.
- (b) To help in the formulation and adoption of a National Conservation Strategy, on the lines of the World Conservation Strategy, with special reference to living natural resources.
- (c) To establish a network of Wildlife Reserves designed to cover representative samples of all major ecosystems.
- (d) To restore degraded habitats and depleted fauna—particularly of major species—in the Wildlife Reserves.
- (e) To rehabilitate endangered and threatened species and restore them to their original habitats.
- (f) To develop a cadre of trained personnel for the management of Wildlife Reserves and to provide proper orientation to all those concerned with Wildlife Management as well as to support the research and education needs in this field.
- (g) To support captive breeding programs of threatened and endangered species and to improve the management of the zoological parks in the country.

I wish to mention that an important measure has been taken recently in the form of the new law called the "Forest (Conservation) Act 1980", which provides that no State Government or any other authority shall dereserve any forest area or divert a forest area to any non-forest purposes except with the prior approval of the central Government. There is no doubt that this new law will help greatly in checking the loss of habitats, which is the main cause for the world-wide decline of wildlife. The very fact that such a law has come into existence is a tribute to our political system and federal set-up as well as a major achievement of the present Government.

For a country as large as ours, with a population which is the second largest in the world and dependent so largely for livelihood on the natural resources within the country, "Conservation" by way of wise and sustained use of resources is the one and only way of survival or existence. Looking at the global picture and keeping in view the realities of the situation, this argument is applicable with equal force to the entire community of nations. And it is in this context that there is real need for international effort, cooperation and collaboration in the larger interest of human society. International agreements like the CITES are the only effective way of providing legally binding means of ensuring that the conservation objectives they are concerned with are fulfilled. I sincerely hope that the deliberations of this Conference would generally promote

these objectives and lead to a further strengthening of the Convention which they seek to serve.

In conclusion, I would like to quote from the Ishopamishads a passage which puts in a nutshell the whole argument in favor of conservation of species.

This Universe is the creation of the Supreme power meant for the benefit of all His creations.

Individual species must, therefore, learn to enjoy its benefits by forming a part of the system in close relation with other species.

Let not any one species encroach upon the others' rights.

With these words, I have great pleasure in formally declaring the Conference open and wish all the participants a very fruitful exchange of views and an enjoyable stay in our country.

Estimated Population of Tigers in Tiger Reserves in India (1979)

1. Manas	...	69 (For core area only)
2. Palamau	...	37
3. Simlipal	...	65
4. Corbett	...	84
5. Ranthambhore	...	25
6. Kanha	...	71
7. Bandipur	...	39
8. Sunderbans	...	205
9. Melaghat	...	63
10. Periyar	...	34
11. Sariska	...	19

Total ... 711

Visit to Corbett National Park

KAMAL SINGH

A Note by Shri Kamal Singh, Ex-M.P. of Bhojpur House, Dumraon, E. Rly. Bihar on his recent visit to the Corbett National Park (Distt. Naini Tal) alongwith Group Capt. R.V. Singh, I A.F. (Retd.) in April, 1981 and his observations on the DHULIA Encroachment, Industrial Complex at MOHAN and the unchecked, systematic and large-scale bombing of rivers and destruction of our river wealth

Introduction

The visit was essentially a fishing holiday from 16th April to 20th April 1981 during which we camped at MOHAN F.R.H. (32 km from Ramnagar—on the Ranikhet Road). We confined our fishing (for Mahseer—"Barbus Tor") in the Ramganga river outside the Park i.e. about 4 miles upstream of DOMUNDA. We visited DHEKALA on Sunday 19th at the invitation of the Director, Project Tiger and spent a day there, fishing near SARAP-DULLI (Champion Pool upto JAMUN SOT) from 10 a.m. to 2 p.m. and thereafter at Dhekala, seeing the game sanctuary and going round the lake (reservoir). Fishing permits were taken by us both for the Park waters as well as for the water upstream of DOMUNDA, from the proper authorities, on payment of the requisite fees.

The Dhulia Encroachment

The road from Ramnagar to Ranikhet runs parallel to the Kosi River which flows to the east of this road and about a distance of approx. one kilometre or so. Until about 5 or 6 years ago, all the way from Ramnagar to Mohan (approx. 23 km), the land between the road and the Kosi was covered with dense forest of KHAIR, SEESAM and other trees and a heavy undergrowth of LANTANA, offering cover and sanctuary to all species of wild animals, particularly the tiger, which loved to lie up in these thick cool patches, so close to water, during the summer months. In fact, the cover was so thick that it was difficult for elephants to penetrate. This patch of thick and excellent jungle between the Ranikhet Road and the Kosi, also afforded excellent cover for animals coming down to water from the hills of GARJIA Forest Block, along the west of the road and now a part of the Corbett National Park and included in Project Tiger.

On the 16th April, while driving to Mohan, we were horrified to find that this lovely thick jungle had been completely cut down and reclaimed. There was not a vestige of any cover but bare naked earth with skeletons of dead Khair and Seesam trees, standing like "totem" poles and a number of huts and settlements at various points and even some cultivation at a few places. Perhaps this may be in accordance to some special programme of Project Tiger but I could not reconcile my mind to what special benefit this deforestation

could possibly bring when for the conservation of wildlife and particularly for the Project Tiger. It is now an accepted fact, that the habitat has to be left undisturbed and in fact no human settlements are permitted within the perimeter so marked.

I brought up the matter with the Director, Project Tiger (Shri C.B. Singh, I.F.S.) and was informed by him that despite the stiffest opposition from him and other concerned officials, the DHULIA reclamation was carried through, on orders of the State Govt. (U.P.) for rehabilitation of Harijans. I was further given to understand that there is a long file on the subject which is still pending with the I.G. Forests at New Delhi with a proposal from Project Tiger and the State Forest Department for providing alternative (forest) site for Harijan Settlement and for proper re-afforestation of this area and mainly for the following obvious reasons:—

(a) Since it is an accepted practice now to close all blocks and forests adjacent to National Parks and Sanctuaries and even to remove villages and “bustees” inside these forests area or on its borders, it follows that the DHULIA encroachment has been contrary to policy and against all tenets of Wildlife Management.

(b) The animals and birds from the west side of the Ranikhet road i.e. from the Park area and from Garjia Forest Block going to the Kosi for water, to which they have been habituated since times immemorial, have now (alas) no cover or protection and at the mercy of human depredation while crossing this open and bare space.

(c) The settlement of “bustees” and villages along this stretch will vitally disturb for all times, the concept and ideals behind Project Tiger and the National Park.

(d) The Forest Departments are prepared to provide alternate site (forest land) for the settlement of Harijans at a place least likely to disturb Project Tiger.

In the interest of preservation of our wildlife, I feel that instant orders should be passed for removal of this Harijan settlement to another forest area, to be provided by the Forest Dept. and for immediate re-afforestation to bring this strip of land to its original pristine glory.

Industrial Complex at Mohan

While I did notice sign-boards, I did not get time or opportunity to see the site or to go round the area although the Mohan F.R.H. where we were camping must have been very close. In fact, it completely slipped from my mind until the matter came up during my discussion with the Director, Project Tiger when we were returning to Delhi at the end of our holiday. I was informed that a lot of money had been spent over this project and that several constructions had already come up.

A MORE ILL-CONCEIVED IDEA, ON A COMPLETELY IMPRACTICAL SITE, COULD NOT BE IMAGINED, IN MY OPINION.

I was further informed that although vast sum of money had been spent, not a single entrepreneur had come up so far to set up an industry. The reason is quite obvious. Why should any sensible investor or entrepreneur, albeit a person from the hill area of that locality, prefer to be locked up in this remote little hamlet which consists of only a few houses and some cultivation with thick jungle all around? A better, more sensible and practical choice, in my opinion, would have been either at Ramnagar (23 km below Mohan) or else somewhere between Ramnagar and Kashipur (a stretch of approx. 25 k.m.) where several types of facilities are available and which are completely non-existent in a remote place like Mohan. For any industry, labour colonies, residential colonies, markets and other facilities are necessary and the obvious choice should have been somewhere close to a town like Ramnagar or Kashipur where amenities are available and besides there are tremendous potentialities for fruit canning, food processing and other agricultural-based industries.

Besides, Mohan is a beautiful little hamlet surrounded by dense forests which form a part of Project Tiger. It is situated on the confluence of two roads, the one going to Ranikhet and the other going to Tehri (Garhwal) via MARCHULA (SANKAR). A forest road branches off from the latter road and goes to KALAGARH via DOMUNDA, LOHACHAUR and KANDA. There are Forest Rest Houses located at Lohachaur and Kanda. Any industry set up at this place (Mohan) will not only give a death knell to this idyllic place with its forests and wildlife but will also vitally affect Project Tiger.

In my opinion, the Govt. of U.P. should be bold enough to concede a wrong and hasty decision and abandon the project immediately. A major portion of the investment already made can surely be salvaged and such buildings that cannot be demolished can safely be handed over to Project Tiger or to the Forest Department.

PROPOSED CONSTRUCTION BY THE P.W.D. OF TARRED AND PUCCA ROAD FROM DURGA DEVI (ON THE TEHRI ROAD) TO KALAGARH

This again, in my opinion, is a needless and ill-conceived proposal which will bring wide-scale destruction to an undisturbed forest, so far, abounding in rich wildlife. The river, Ramganga, flows through this area and crosses the road at Domunda to enter into the Corbett Park. The road is jeepable and trucks ply comfortably for timber and other forest products. Why not leave it as it is? What is the need to improve it and waste money? The Forest Department are not in the least keen for encroachment of their road by the P.W.D. and besides this would again prove a hindrance to Project Tiger. The money saved could be utilised for several better purposes.

WIDE SCALE BOMBING OF RIVERS AND DESTRUCTION OF OUR RICH RIVER WEALTH.

The Ramganga river, upstream of DOMUNDA (which is just outside the Park) upto Marchula (Sankar), a stretch of about 7 or 8 miles (12 to 14 km) is systematically and regularly bombed and the fish (mainly Mahseer—"Barbus Tor") so gathered, is loaded in sacks and sold in the Ramnagar market @ Rs. 6/- to Rs. 8/- per kilo.

This was confirmed by several local inhabitants whom we met in that area and the following evidence was found by us in the 2 miles stretch of water which was traversed by us, about 4 miles upstream of DOMUNDA and about 3 miles downstream from Marchula:—

- (1) One large sack containing one or two small dead fish probably not more than a day old.
- (2) Burnt out dynamite fuses found at 2 places.
- (3) Two suspicious looking cleanly dressed men who did not appear to be local men and who gave us a wide berth about 12 noon on the 20th April.

Two villagers grazing their cattle along the river, on the first day of our expedition i.e. on the 17th April (one of them being a retired Choukidar of SARAPDULLI FRH) stated very emphatically that all the pools were being regularly bombed and that we would be wasting our time trying to catch fish at these pools. Instead, they advised us to move further upstream and try our luck in the "rapids" and "runs" where the water was shallower and bombing was not practical and usually the "bombers" avoided such fast flowing and shallow waters. We certainly caught some fish (Mahseer) in such waters but what a difference it was from about 6-7 years earlier, when we were last fishing in these parts.

This kind of unlicensed massacre is going on all over India and in practically all our rivers and streams and is the easiest and quickest form of providing either the larder for a visiting dignitary or else for easy profit and gain. While a fraction of the fish so bombed get collected, the major portion is lost or maimed for life and a large number of fingerlings and small fish get wantonly destroyed.

The problem is one of enforcement. The rules are all there since pre-independence days but the implementation is lacking. The biggest menace, in my opinion, is the P.W.D. with their contractors and road-building gangs and the unlimited supply of dynamite which also finds an easy outlet into the nearby market. It is the easiest thing to buy dynamite at places like Ramnagar, Kashipur, Hardwar, Dehra Dun, Herbertpur on the Saharanpur Chakrata Road, etc. etc.

Wherever new roads are being built or old ones repaired—near to streams and rivers, bombing becomes a daily affair and hardly any fish life remain. It is a sad sad affair.

This dynamiting of rivers falls in the same category as “poaching” of wild animals and birds and it is most strange indeed that wild-life enthusiasts and keen preservationists have totally overlooked this wanton destruction of river wealth.

The solution is not to close down forests and rivers or to ban shooting or fishing by genuine sportsmen, hunters and anglers but to encourage licenced hunting and angling. Genuine sportsmen would atleast keep the unauthorised killing, trapping or bombing in some check. Just as some forests are thrown open for licensed hunters, certain stretches of every river could be kept reserved for licenced fishing by sportsmen and anglers while other stretches, particularly those flowing past habitations, could be settled seasonally or annually for licensed netting with a stipulation on the “mesh” size being not less than 3” or 4” square (already provided in the forest manuals) so as to prevent fish smaller than 2 or 3 lbs. to be caught. Thus a steady supply to fish for the market together with livelihood for professional village fishermen can be ensured and there could be some check on this indiscriminate menace of bombing. Of course, an effective enforcement staff would always be necessary with alert Forest Officials. The staff is available even today, only the proper and due importance is not being given or the correct consciousness felt by officials and the public alike.

Conclusion

All the 4 points made by me above are of equal importance and significance and I feel they deserve immediate and special attention at the highest level in the interest of preservation and conservation of our rich fauna heritage.

Remarks of the Chairman of the Standing Committee

Honorable Minister, Mr. Secretary, and ladies and gentlemen.

On behalf of the Standing Committee I would like to welcome you to this, the Third Meeting of the Conference of the Parties.

The Convention on International Trade in Endangered Species of wild Flora and Fauna is a unique world-wide endeavor to conserve those species which are threatened to one degree or another with extinction and are affected by international trade. The Convention recognizes that the people of each country are the best conservatives of species found within their boundaries, and that international co-operation is necessary to effectuate this conservation.

These principles are reflected in the basic structure of the Convention. First, each Party country is required to establish scientific and management authorities. These institutions make the basic conservation decisions on the regulation of trade, using scientific data on the status of the species and the effect of international trade. Second, a system of documentation is established as the mechanism for international co-operation in carrying out these conservation decisions.

These are the cornerstones of the Convention. They are augmented by the Secretariat, which provides a channel for communication between the Parties and carries out special studies, and by the meetings of the Conference of the Parties. At these meetings we determine which species are in need of conservation through the regulation of trade, and we develop practical means to improve the effectiveness of the Convention.

In the six short years since the Convention came into effect, many countries have become Parties. Scientific and Management Authorities have become established and are developing their legislative authorities and operational procedures. We are working on such practical tools as the identification manual, guidelines for transportation of living specimens, a standardized nomenclature for species, and the development of a uniform permit. Thus, it is clear that we are well along in the initial phases of implementation.

At this meeting we will discuss many significant issues that will have an impact on the effectiveness of the Convention as it moves into its maturity. These include changes in the lists of species covered by the Convention, practices followed in the implementation of the Convention, financing Secretariat, and the continued development of practical tools for implementation.

The Standing Committee and the Secretariat have tried to structure this meeting to provide the maximum opportunity for communication on all these issues. We are especially

thankful to the Government and the people of India for providing these excellent facilities and for the warm hospitality we are being shown, both so essential to the process of communication.

It has been and continues to be our experience that these opportunities to meet and discuss the complex business of the Convention are invaluable. We invariably find that we share common goals, and that when we listen to each other with open minds we can resolve our differing views and assist each other in finding ways to make the Convention useful and effective.

Speaking for the Standing Committee, we look forward to the next few weeks of discussion and to successful meeting.

Thank You

Vote of Thanks

BY

PETER H. SAND

Secretary General of the Convention

We have been privileged to listen to some very good and very high-level advice this morning—advice on how to conduct this meeting and how to steer our Convention on the right course in the future. I should like to express my appreciation to all speakers for their valuable comments and for the helpful orientation they have provided to our meeting. My special thanks go to the Union Minister of Agriculture, the Honorable Rao Birendra Singh, and to the Government of India whose hospitality we enjoy in this city and in this magnificent building. Mr. Minister, our Secretariat can only serve as a messenger, so I should like to convey to you a message of gratitude to India, on behalf of all foreign participants in this meeting. The Chairman of our Standing Committee has already expressed himself in the name of the Governments, Parties to the Convention. Further, to the representatives of UNEP and of IUCN who have also spoken, I wish to include in our message to you all the other organizations participating in this meeting as observers and I am happy to say that this includes not only a wide national and international nature conservation group but a respectable number of legitimate wildlife users, trade associations and commercial interest groups. I think it is fair to say that the one basic idea which we all share is a genuine concern for something very precious—so precious indeed that we not only want to make the wisest possible use of it during our lifetimes, but we want to safeguard it for future generations if we can. This is what CITES is trying to achieve. Thank you for helping us.

Speech by Assistant Executive Director of the United Nations Environment Programme

MR. SVEN EVTEEV

Mr. Chairman,
Your Excellency,
Distinguished Delegates,

It is my pleasure and privilege to represent the Executive Director of UNEP at this, the Third Meeting of the Conference of the Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora. In 1973, when the CITES Convention was signed, few people foresaw that the newly signed Convention was but the beginning of one of the major global conservation treaties for which the Executive Director of the United Nations Environment Programme provides the Secretariat; a Convention which now in its eighth year, already has a membership of 67 States, which is still growing and may double by the CITES Convention tenth anniversary in 1983. The present status of the CITES Convention is the result of efforts of dedicated people, the CITES Secretariat, the Parties to the Convention, especially the concerned governmental bodies and non-governmental organizations represented here today, and the organization I represent.

The CITES Convention is recognized throughout the world as being unique, both in terms of promoting international controls over illegal trade in wildlife products, and wildlife which together with habitat destruction is considered the major threat to the survival of endangered species, and in facilitating procedures to promote legitimate international trade in non-endangered wildlife and its products, which can make an important contribution towards rational economic development of renewable natural resources. During the lifespan of the CITES Convention, massive illegal trade in wild animals and plants as well as their parts and products, have been reported by the Parties. In response, the Parties to the Convention in co-operation with the CITES Secretariat have been taking a number of steps to investigate the trade further, and to aid in the enforcement of wildlife protection laws in a co-ordinated effort to reduce the illegal trade through strengthening the national enforcement of the CITES Convention. A continuous monitoring of the import and export of endangered animals, plants and their products is prompted by rapidly growing evidence that illegal capture, transport and sale of live wild animals and plants as well as their parts and products is a booming business, contributing directly to the decline of many species. UNEP's support to the TRAFFIC Group, which is concerned with trade records analysis of flora and fauna in commerce, has facilitated recording of trade information from ports of entry and export, analysis of data, and the preparation and dissemination of reports on heavily exploited

species to governments concerned, and to national and international governmental bodies and nongovernmental bodies and nongovernmental conservation organizations.

In Costa Rica, it was agreed that the Secretariat of CITES would be financed in 1980-81 jointly by UNEP and the new trust fund. UNEP undertook to contribute \$350,000 for the biennium and the parties to the trust fund undertook to contribute some \$673,000. It was to be expected that there might be some delay in the parties securing appropriations through their national budgeting procedures and UNEP agreed to put down the bulk of its money—\$280,002—in the first year. This was just as well, as by September 1980, only \$206,000 had been paid to the trust fund, and the Secretariat had to cut back planned activities and make savings from the budget agreed at Costa Rica.

The 1981, UNEP is in no position to contribute more than the balance of its agreed \$350,000—that is \$70,000. All the remaining costs of the Secretariat, including the cost of this meeting must be met from the trust fund. This should not be difficult if you—the parties—will pay—as I am sure you will—the contributions to the trust fund agreed at Costa Rica. I must, however, stress that it is important that these contributions are paid quickly, as in order to approve a budget for the Secretariat, we must have the money in advance. Although UNEP stands ready to help where it can, its financial rules do not permit it to make advances to a trust fund on the assumption that it can reimburse itself from the fund later on. We are not allowed to do this by our auditors—even if we could afford to do this, which I have to inform the meeting we cannot.

Up to 21 February, that is a few days ago, out of the assessed contributions to the trust fund for 1980-81 increased by the accession of new parties to \$761,913, there was \$474,576, or 62 per cent still outstanding. As a result, the Secretariat is only funded through to the end of April 1981, even though all the contributions received in the trust fund—and UNEP residual contribution—have been committed.

Budgeting on hand-to-mouth basis, or more accurately a month-to-month basis, is not an efficient way to conduct our affairs. It creates work unnecessarily and therefore increases costs. Inevitably, it must create feelings of uncertainty in the minds of the Secretariat staff about the security of their contracts, although I have to say that the Secretariat has continued to work in these difficult circumstances without complaint. We owe a debt of gratitude to them for this.

The Trust Fund needs your contributions now, so that we can commit the budget for the rest of 1981 and hopefully the first few months of 1982. I am sure that you will agree with me that we ought to try to budget at least twelve months forward. We can only do that if we receive the contributions promptly.

For the biennium 1982/83, UNEP is prepared to stand by its pledge at Costa Rica to contribute a further \$175,000. Beyond that—as we said at the time—we believe the costs of the Convention should be the responsibility of the parties completely.

The Executive Director is also prepared to “provide” the Secretariat and to administer the trust fund on behalf of the Secretary General if it is your wish that the contributions you make to support the Convention should be channelled through a United Nations trust fund. If you prefer to handle your funds in some other way that is of course up to you, and we would assist in any way we could to establish such arrangements with you. These matters will all be discussed in detail in the coming week, and I and a colleague are here in New Delhi to take part in these discussions. Whatever you decide—as it is your decision—I must, however, stress again that the contributions from the parties will be required within an agreed time frame if the Secretariat is to be enabled to plan and organize its affairs in an efficient manner in the future.

The subject of this meeting is clearly of great interest to those concerned with wildlife and protected areas throughout the world. It is also central to the United Nations Environment Programme; the activities undertaken under the CITES Convention are a direct contribution to one of our major goals for 1982 in support of a global plan for the conservation of nature. UNEP acts as a catalyst in promoting conservation of natural terrestrial and marine ecosystems as an integral part of national economic and social development and in the rational management of the resources of the environment in such a way that we do not transgress the limits of the biosphere within which we live.

In addition to supporting the CITES Secretariat, UNEP's conservation programme includes natural terrestrial, and marine ecosystems and helped to make possible the preparation of the World Conservation Strategy to stimulate a more focussed approach to the conservation of living resources, and to provide policy guidance to governments on how this can be carried out by all people concerned. The preparation of the World Conservation Strategy marked the culmination of a five-year joint undertaking by the International Union for the Conservation of Nature and Natural Resources (IUCN) and the World Wildlife Fund (WWF), assisted by the international scientific community and in close co-operation with FAO and UNESCO. The Strategy was formally endorsed by the UN General Assembly at its 34th Session in 1979, and by the UNEP Governing Council in 1980. The implementation of this Strategy is a high priority item in UNEP's programme. It is therefore hoped that with the pooling of international resources involving governments, to UN system and the NGO community, the Strategy will provide a practical and useful tool for conservation of living resources and for sustained development.

Within the framework of co-operation between UNEP and IUCN, high priority is also given to the preparation and publication of the Red Data Books on Mammals, Birds, Fishes, Amphibians, Reptiles, Invertebrates and Plants. Information on more than 600 threatened species was published by IUCN in 1979-80 as new or revised sheets in the Red Data Books.

You are also familiar, I am sure with the UNEP-supported United Nations List of National Parks and Equivalent Reserves. The recently published 1980 edition updates the list published in 1975 and covers world heritage sites, national parks, nature reserves and biosphere reserves. Another tool for supporting species conservation is the UNEP/IUCN World Directory of National Parks and other Protected Areas in 60 countries.

The development of an international identification manual is one of the priority tasks to be undertaken jointly by the Parties, the CITES Secretariat and UNEP. This is a long-term task involving considerable effort in international technical co-ordination of highly specialized scientific work. Accurate and quick identification of wild animal or plant species and their parts or derivatives in the CITES Appendices is of critical importance to effective enforcement of international trade controls. International harmonization of individual country programmes for species identification aids at the national level is also crucial for the uniform enforcement of the Convention.

UNEP also supports the further development and finalization of a world checklist of vertebrates based on the preliminary checklists on mammals, and on amphibians and reptiles, which were prepared by the U.S. Fish and Wildlife Service and the U.K. Nature Conservation Council in 1979. A quick and uniform reference to the CITES Appendices is of critical importance to effective implementation and continuous updating of the Convention, particularly since many of the difficulties in national enforcement of international trade controls flow from the absence of a uniform global taxonomy and of checklists to facilitate identification of endangered species in export and import.

Another activity supported by UNEP to assure international uniformity in the implementation of the CITES Convention has been the preparation of Guidelines for Transport and Preparation for Shipment of Live Wild Animals and Plants which were adopted at the second meeting of the Conference of the Parties to San Jose, Costa Rica in 1979, and which have been communicated to all Parties.

These are only a few of the manifold activities undertaken by UNEP as part of its conservation programme of direct relevance to the CITES Convention.

Mr. Chairman, the organization I represent has the task of developing a global programme of international co-operation to protect and enhance the quality of life of all countries, and we and our co-operating agencies in the UN system are dedicated to the concept that the quality of life for present and future generations requires a continued process of development, just as any sustainable process of development rests on the maintenance of the natural systems on which development and indeed life itself depends. The co-operative nature of this relationship between environment and development, and between all nations, rich and poor, is well-illustrated by the Convention which has brought you, the Contracting Parties, together here in India today. It is a fact that the effectiveness of your international agreement rests on action at the national level, and that enforcement, especially in the importing states, is largely dependent on the effectiveness of licensing processes in the exporting states. We in the United Nations Environment Programme are proud to have been able to provide a small secretariate which, with the help of our friends in IUCN, has been effective in helping you to accomplish the objectives of this agreement. We hope it will be possible to continue to do so.

Mr. Chairman, Your Excellency, Distinguished Delegates, I would like to end by expressing my best wishes for a most successful meeting of the Conference of the Parties. I am sure that you will all contribute greatly to the most appreciated global effort for the maintenance of species diversity and conservation of ecological processes on our Only One Earth, a prerequisite for its stability and sustained development.

Thank you very much for your attention.

Some Observations on Definitive Behaviour of Cheetal (*Axis axis*) in Kanha Natinal Park

By

P.C. KOTWAL

Research Officer, Kanha

The distribution of Cheetal is so wide and occurrence so gregarious that it permits a detailed study of this deer. Accordingly it has been extensively studied on various aspects (Graf and Nichols 1966, Schaller 1964, Brander 1923).

This paper relates to two different behavioural aspects of Cheetal as has been observed in Kanha National Park.

I. There is a carnivore proof enclosure in the Park, covering an area of 28 ha with about half area of open grassland and remaining area of sal forest and a perennial source of water inside. This enclosure was primarily erected in 1970 for Central Indian variety of Barasinga which was on the verge of extinction. Therefore some Barasinga (2 male and 3 female) together with some Cheetal and Blackbuck were put inside the enclosure to protect them from becoming prey of predators in a bid to save the race. The causes of population decline were investigated and the factors responsible were rooted out. As a result of conservation efforts, the population of Barasinga has started increasing (Panwar 1972). Now the number of animals inside the enclosure have increased (Cheetal 26, Blackbuck 15, Barasinga 25) and there is a paucity of fodder particularly during the dry hot season (summer). The primary aim of protecting Barasinga is also overcome as now they are increasing outside the enclosure. Therefore an attempt was made to drive out the animals particularly Cheetal to reduce the grazing pressure inside the enclosure. The black-buck were to be retained inside because of their dwindling population in the Park.

Before making the actual drive, the daily routine of animals was studied from a *machcan*. The animals remain in open grassland in early morning and evening. During day time they generally remain inside the forested area but the Blackbuck remain outside the forested area during day time also although sometime they move to the forest fringe. Cheetal and Barasinga generally graze in separate herds, but occasionally they also mix together while foraging. Mahuva (*Madhuca indica*) flowers were spread and salt lick was put on a spot selected for making an opening in the fence from where the animals could go out.

When the animals started gathering there, the fence of the enclosure was opened 100' wide on the same spot. A systematic drive was made after separating the Blackbuck in the open area. The animals reached the opening of the fence and saw it but they never went

out, and moved to other side inside the enclosure. This was tried 4-5 times. Every time the animals moved from near the opening but no animals could be driven out. At two times, a tamed Bluebull and a Sambar were tied at the opening and just out of it to attract the attention of inside animals which were driven. But no Cheetal and Barasinga moved out.

Then, after a couple of days the fence at the same spot was again opened 100' wide and kept as such for about 10 days. Mahuva flowers and salt lick were put at the opening, both inside and outside the enclosure to act as an attraction to the animals.

For first two days the animals of enclosure gathered inside and consumed the Mahuva flowers while the outside animals came and ate the flowers of outside area. The enclosure animals were very cautious in crossing the boundary of fencing. After 2-3 days the enclosure animals also started coming outside and join the outside animals and eat the Mahuva flowers. But with any disturbance the enclosure animals use to get inside and other animals use to disperse away. After few days (8-10), the fence was again erected, because some jackals had entered the enclosure who were eventually driven out. During this period some Cheetal got accustomed to going outside and about 15 of them finally remained outside. No other animals from the enclosure could go out. Thus the Cheetal were more enterprising than other animals who could hardly break the tradition of living inside the enclosure.

II. Normally wild animals are afraid of man and keep themselves away from man but they do not consider man as their enemy although sometimes man acts like that. In an observation, which was incidentally witnessed three times in Kanha, (although occurs several times in nature) Cheetal in wild approached towards human being in a bid for safety against their predators. Such a behaviour has also been described by Brander (1923). The incidences are briefed below.

In one instance, it was a cloudy morning of August, and I was observing wild dogs from elephant back in Kanha meadow. Gradually the dogs moved towards the nearby forest edge and two were still in open. A scattered herd of Cheetal was foraging about 300 yards away. Suddenly three jackals isolated a Cheetal fawn from the herd and started chasing it. The Cheetal fawn in turn, ran fast towards the elephant, without spotting the dogs near the elephant. As the fawn reached close to the elephant, it was surprised by the two dogs, which were present there, and became their victim. The jackals did not come close to the elephant. They, however, finished the carcass left by dogs.

In another instance. I was going on elephant back to observe wild dogs. As the elephant went out of the campus, it was observed that wild dogs were chasing a Cheetal yearling. As the Cheetal saw the elephant, it ran fast towards the elephant. The dogs also followed the Cheetal towards the elephant but did not come very close and stood at a distance watching the Cheetal. Within a fraction of a moment the Cheetal came close to the elephant and escaped in the bushes towards the campus. The dogs eventually moved away.

In yet another instance, when it was late afternoon in Kanha, wild dogs chased a Cheetal yearling, which ran towards the campus. The dogs also followed the Cheetal. Within no time, the Cheetal came in the campus and entered a hut which was meant to store and cook the food of tame elephants. There was nobody in the hut. When the dogs saw Cheetal entering the hut, they abandoned the chase and moved off. When people saw all this, they went to that hut and found that the Cheetal was crouched in a corner with high respiration. A bamboo 'tatta' was placed at the entry. After about an hour, when Cheetal came to normalcy, the bamboo 'tatta' was removed and it immediately ran away.

Discussion

Thus like all wild animals the Cheetal is afraid of man, but do not consider man as their enemy and in emergency when there is question of their life and death, they take direct shelter of man. This seems to be one reason of their high congregation during evening and night in the vicinity of rest houses. If undisturbed, the individual deer appear to be fairly regular in their daily routine of foraging, resting and movements. When travelling to and from feeding grounds and watering sites they usually follow well used trails that form a sort of net work throughout their range. During day and night between period of foraging they bed down to rest which appear to be for comfort as well as for concealment and safety. As a rule they are sensitive to human activities. In a study site at Mawaii, human activity was limited to daylight hours. Since the deer spent most of the day under cover, little effect upon their normal activities and movements was noticed. Where their range includes well used roads or adjoins plantation, where human activity prevails during day time, they simply move away from the disturbed portion during the time of human activity and return at night after human activity ceases.

In first type of behaviour, the inside animals are used to live inside the enclosure for most part of their life and are too rigid to leave the enclosure. Probably they have marked the fence of the enclosure as their 'territory' which they are not prepared to leave by pressure. On the other hand, if given chance by opening the fence, they explore the outside area which is new to them, to extend their territory. While in other case they know the situation of being hunted by the predator and in turn run for rescue towards momentarily less dangerous human being. In both the cases they are definite about their actions and thus exhibit definitive behaviour.

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Some Ecological Aspects of Wildlife Extinction In The Himalayas

BY

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With an upsurge in the developmental activities in all phases of science and technology, and in particular in forestry and agriculture, the ecology, ecosysteme (Biogeocoenoses) in the great Himalayan belt have been considerably disturbed in the past few decades. Himalayan forests are not only rich in natural products, but also constitute an ideal natural and prehistoric home of all wildlife elements. The manipulation of forests for human needs and urbanization therefore have serious impact on the preservation and propagenity of wildlife species in the forest wealth of a country.

Both human and natural factors have always victimized wild animals since their inception in the natural environs. Some such factors which contribute towards the extinction of wild animals in the Himalayas are:—

1. Deforestation for human urbanization.
2. Indiscriminate killing (poaching and shooting) of game birds, mammals, for food, feather and fur.
3. Random use of insecticides.
4. Wildlife diseases in nature due to influx of microbial, macribial parasites).
5. Pest and predators of wildlife.

Deforestation for human urbanization:

Rapid population growth accelerated the rate of urbanization in many areas of the Himalayas, resulting in deforestation and vanishing of useful species of wild animals. In the endeavour to struggle and seek safe ground many of such wild animals died and resorted to stray in the abutting geographical regions. In these new ecological areas they again get exposed to several factors of risks to their lives, only some get acclimatised in the new ecology for their protection.

2. Indiscriminate killing of game birds and mammals:

Food, feather, fur and recreation of man has enticed him to kill a large number of wild animals by indiscriminate poaching and shooting. In spite of the fact of a legal protection to several wild animals the poachers and unauthorized hunters seriously impair the population of poor wild animals in the Himalayan regions. It is evidently, due to the slackness of

forest and wildlife authorities who must take stern and penalizing steps against the game law abrogators.

3 Random use of insecticides:

With the emergence of a new era of insecticides, as an eradication campaign for the control of deleterious insects and acarinties, serious human and animal health hazards have also appeared. The wild animals including rare birds could not escape from the hazardous impacts of such insecticides. Insecticide sprays and dusts in open fields often expose the wild animals to the risk of feeding crops treated with insecticides or other predatory activities. This phenomene brings about numerous health problems which often go unnoticed in the wild animals and kill them in nature.

It has been scientifically established that the insecticides not only contaminate environment (pollution), but also interfere with the body metabolism and accumulate poisoning activity (bio-concentration) in the body metabolism.

A portion of DDT has now been known to change into DDE a stable pollutant compound. According to recent reports (WHO, 1971), probable two third of all DDT produced in the past 25 years still remains DDT and much of the remainder has become DDE. Two serious impacts of DDT, on account of its perpetual persistence in the environment have now been realized by science:

(i) Water pollution (contamination) due to DDT in streams, lakes, offshores and even in seas impair the fish population because these insecticides are taken up by the planktons which constitute a bulk of fish food and hence it is transmitted in the food chain in nature. Same is true with other insecticides also. The deposition of high concentration of DDT in adipose tissue of fish does not allow the fish embryos to survive. This mortality factor contributes towards the extermination of many of rare and useful species, e.g. trout population is dwindling in many parts of the world mainly due to this factor.

(ii) The second equally tragic effect is on the predatory wild birds which feed on fishes and other animals having DDT concentrate in their tissues. The DDT which is a stable compound inhibits the liberation of *carbonic anhydrase* of the shell gland resulting in the thinning of the egg shell. Such eggs of the birds with insufficient egg thickening are failure in getting properly hatched and hence reduce and vanishing the affected bird population. Certain disappearing hawks and eagles in North America, Europe and high altitude Himalayan regions are the unique examples of this category.

The long term effects of DDT and other allied insecticides on environment have so wide a magnitude that the use of these compounds in many of the developed nations such as

U.S.A., Canada and Scandinavian countries is banned. The ideal substitute for these costly, pollutant and lethal insecticides is to preserve all species of frog, toads, and wild birds which are effective predators of insects.

(4) Wildlife diseases:

The subject of wildlife diseases and their ecology is an integral part of wildlife management and protection. Unfortunately, it has received very little attention in the Himalayan regions. A wide variety of helminth, nematode, protozoan, bacteria, viral and rickettsial diseases are responsible for killing many wild animals in nature. Most of the outbreaks of these lethal diseases go undetected and kill wild animals in nature. Mortality index for some diseases of European rabbit (*Sylvilagus brazilensis*) such as *Myxomatosis* go to even 90%. Consequently, they have significant impact on human health also, as is true with most of the zoonotic diseases.

The wild animals have their principal active role in more than 30 known zoonoses. The disease dissemination by these animals in human population involves the role of haematophag vector arthropods and numerous reservoir animals.

As a matter of fact the wildlife is the only entity which represents the true and intimate relationship between the parasites and their natural hosts. Ticks take a heavy toll of wild animals by causing and transmitting serious ailments. In Canada the infestation of adult *Dermacenter andersoni* kills a large number of mice and deer (Gregson, 1956). The ear tick *Otobius megnini* (Duges) is known to cause deafness in its own wild hosts viz., deer etc. This factor has essential bearing in reducing the population of wild hosts such as deer in an environment abounding with predators.

The tick vectors of tularaemia infest numerous game birds and mammals. Tularaemia proves fatal in many wild animals and brings about a periodic fluctuation in the population structure of many useful elements of wildlife.

(5) Pests and predators of wildlife:

A large number of carnivore birds and mammals are active pests and predators of wildlife. The members of cat family viz., lion, tiger, leopard, and other wild animals such as wolves, foxes, vultures, eagles etc. are active pest and predators on herbivore wild animals, and rare rodents. It is, therefore, advisable that the richly infested wildlife zones should be declared biosphere reserves with proper administrative maintenance of all species of animals inhabiting it. In such ecological areas due legal protection should be given to all vanishing game species by man, because man is the "principal predator of our vanishing wildlife."

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Tigers and Leopards as House-hold Pets

BY

GIRI RAJ SINGH

An animal, any sort of animal raised from infancy with love and care by a human-being, becomes in due course and for all practical purposes, a member of that particular persons house-hold. The loss of such a pet is akin to losing a near and dear relative. Having personal experience of losing many a dearly loved pet, I can fully realise the feelings of Saroj Raj Chaudhury and Ms. Nihar at the loss of their dear Khairi—the pet tigress. I offer my sincere heartfelt sympathies.

I have never had the pleasure of meeting Saroj Chaudhury, but having read his numerous articles on Wildlife with great interest, and having heard a lot about him from friends, I feel that he is one of our top tiger experts in the country today. This makes it the harder for me to understand why Sri Chaudhury kept this full grown tigress as a pet in his house. It is unreasonable to contend that he kept this tigress in order to study her behaviour at close quarters. As a leading Field Director of Project Tiger, Saroj Chaudhury had at his disposal all the possible resources of being able to study tigers in the wild to his hearts content. Beside, the behaviour of a pet tiger is so very much different from a tiger in the wild, that the careful study of one would not be of much use in evaluating the behaviour of the other.

All cats are born killers. They have no choice in the matter, as in order to survive in their natural habitat, they have to depend for their food on their ability to kill other creatures. Even a common house cat, that has been domesticated for hundreds of generations, never really gives up its killer instinct. As is well known to people who keep cats as pets—a cat getting the best of food in the house, will go off at the first opportunity to stalk and kill a bird or a mouse and eat it's kill with much more relish than any other food that is fed to it. Another very important factor in dealing with all cats, is their feeling and nature of independence. Even a house cat can never be fully disciplined in the same way as a dog or other pets. Both the above mentioned factors: natural killer instinct, and a natural feeling of independence are of course much more evident and pronounced in the greater cats such as tigers and leopards. No person, no matter how much love and care he may bestow on his pet tiger or leopard, can ever hope to completely subdue their natural killer instinct and their natural feeling of independence.

I and my family and friends have from time to time kept tiger and leopard cubs as pets. These little balls of fluff and mischief certainly do make loveable pets, but only upto a

certain age and size, after which they must be handed over to a competent zoo, or one is liable to find oneself in serious difficulties at sometime or other.

It is to the great credit of Saroj Chaudhury, that his pet tigress was never involved in any mauling or killing of a human being. He must have exercised great caution and control over her, and of course his knowledge of tiger behaviour in general must have been of great use. But what if a layman having little or no knowledge of tigers, tried the same experiment as Saroj Choudhury? The results could be disastrous. I strongly feel that no one has any justification at all in keeping a full grown tiger or leopard in the house as a pet. He is not only exposing himself and his family, but his friends and neighbours as well, to a great and quite unnecessary hazard, and danger.

The case of the three people that were mauled by Khairi during her fatal illness, is quite understandable, as she was under the influence of rabies at that time. But I am sure even in this case of this well controlled and disciplined tigress—the dog that she killed from which she contracted rabies, was not the only dog or domestic animal that she killed during her life time. I am also positive, that during her life time, Khairi not only scared the wits out of numerous unsuspecting strangers, but at least a couple of people, probably strangers to her, must have had a very frightening experience and quite a close shave, where any panicky move on their part may have resulted in at least a mauling if not an outright kill. Anyway, poor Khairi is no more. The manner of her death due to rabies was really tragic, and my heart really and sincerely goes out to, “The Chaudhuries”.

It would not be out of place here to mention an incident proving the unreliability of a pet tiger. There was once a three quarters grown tiger cub at the Delhi zoo. The cub was very tame and friendly and was placed often taken out for walks on a chain by its attendant, and was also at times taken to various V.I.P. homes at Delhi to be shown off as a tame and well behaved tiger. The ban on tiger hunting had not been imposed yet, and I was carrying on my business of professional tiger hunting, taking out foreign tourists for tiger hunts. A party of V.I.P. American tourists had come to Delhi, including two persons who were to hunt with me. I was not present in Delhi myself, as I had gone on ahead to make the necessary Camp arrangements for my clients. This party of tourists was entertained at lunch at his residence by an Indian V.I.P., friend. As was the usual practice, the tiger cub from the Delhi zoo was brought over to be shown to the Americans who were delighted with it. One of my clients wanted his pictures taken petting the cub, but as he put his hand on the cub's head, the tiger suddenly snapped and caught him by the wrist. Everyone laughed and considered it as a prank on the part of the cub, but things took a serious turn when in spite of coaxing and all efforts the tiger started growling and refused to let go the gentleman's wrist. It held the wrist with not any great pressure but with a firm enough grip.

to draw a little blood. A car was hurriedly sent off to fetch the head keeper from the zoo, who after some difficulty managed to persuade the tiger to open his mouth. One can well imagine the feelings of the gentleman who had his hand in the tiger's grip for almost half an hour, expecting his bones to be crushed at any moment. A doctor was called and the slight wound on the American's wrist properly treated and bandaged and an anti-tetanus injection given. Imagine my surprise when the American Client turned up in camp and on my asking about his bandaged wrist, he replied that he had been bitten by a tiger.

To keep a full grown tiger or leopard as a house pet is bad enough, but to try and rehabilitate such a pet and let it loose in the forests to fend for itself, is expecting too much and asking for trouble. How can one expect a wild creature such as a tiger or a leopard, brought up in such alien surroundings as a human home, to ultimately revert to its wild ways completely. The main thing that keeps these great cats from taking to human killings, is their instinctive fear of human-beings. One of these animals brought up in close contact with men, certainly does lose all fear of humans. To rehabilitate such an animal in the forests, is to let loose a potential man killer.

I fail to understand what does a person really gain in rehabilitating one of the greater cats in its natural surroundings. Except perhaps personal and private gain, it boosts one's ego, gains one personal fame, and earns one a substantial of money from books etc. written about this experiment.

Take the classic case of the internationally famous Joy Adamson and Elsa, the lioness that made her world famous. Joy Adamson must have certainly collected a substantial sum from royalties on her books and from the filming rights of the Elsa story. But was Elsa really ever rehabilitated? Even if we take it for granted this rehabilitation experiment was a complete success, but at what cost? What of the man who was killed by Elsa's son? The later experiments of George Adamson (Joy Adamson's husband) in trying to rehabilitate some more lions, proved even more disastrous, when more than one person was killed and a few badly mauled. The Government concerned had to put an end to such experiments.

Closer home, we have our own Billy Arjan Singh of Tiger Haven, Palia, trying such experiments. Again if we take it for granted that he has successfully rehabilitated a couple of leopards and a tigress at Dudhwa, but again the question crops up, at what cost? Two human lives were lost in the process, and hundreds of local people including some members of Billy's own family were scared out of their wits. I strongly feel that such experiments must be stopped by laws, as has been done in Africa in the case of George Adamson, and not encouraged-as our Government, is doing.

No matter how one may differ from the way of thinking and way of working of Billy Arjan Singh, there is no denying the sincerity of his work and efforts in saving wildlife in

general and tigers in particular. But I do wish he would give up the useless and thankless experiments in rehabilitating tigers and leopards. No one stands to gain anything from this, not even the animals concerned. From what I am given to understand, Billy is uselessly building up a severe resentment and antagonism bordering on bitter hatred among the local people against himself.

Even if a person does somehow manage to rehabilitate a score of tigers, leopards or lions, but is it really worthwhile if even one human life is lost in doing so. The wildest of wild creatures, the greater cats are best left to their own devices and should not be fooled around with. They have no place in a human residence. They should either best be left in the forests they love or if necessary kept in zoos.

*The author little realises the scientific value of the study of Khairi for biology and behaviour of the tiger. Because of the sad death of Khairi the study remains incomplete.

Editor.

The Environment and We: Why Preserve Wildlife?

BY

SAMAR SINGH

Director, Wildlife (Govt. of India)

The environment in which we live consists of four major elements: land, water, air and the living organisms such as plants and animals. Land, water and air form one group, called the physical environment, while plants and animals form another group, called the organic or biological environment.

While the physical components of environment are undoubtedly essential for the existence of life in various forms, the biological set-up is equally vital and provides the life-supporting systems for the sustenance of Man and Earth. In fact, Man cannot survive without the plant and animal life—the flora and fauna.

Having said this, I would now like to focus attention on that aspect of our environment which has been taken for granted for too long and has suffered severe onslaughts at human hands. So much so that now, in some kind of a feeling of remorse and repentance, efforts are being made to arrest this trend and to set right the balance. This is the concern for the flora and fauna in the wild state, more popularly called 'wildlife'.

In recent years there has been a lot of talk about conserving our wildlife. The common man may well ask: "Why all this fuss? What use is wildlife?". In any case, it does not make much sense to the town-dweller. As for the villager, he has his own axe to grind: the wild animals destroy his crops, the predators kill his cattle and the wildlife reserves impose unwanted restrictions on the grazing of his livestock. After all, which is more important—domestic livestock or wild animals?

Then, there is the sportsman who feels irked by the restrictions on shooting and hunting and, of course, the trader who thrives on the business of wildlife and their products and whose unscrupulous hand is behind every move to relax vigilance on this score.

Not the least are those in positions of influence and authority, who have their own misgivings about the need for wildlife conservation. Some of them wonder if it is really worth all the efforts in preserving the wild beasts. The more dangerous are those who are so inebriated with the exuberance of their wisdom that they are convinced a poor country like India can ill afford the luxury of spending scarce resources on the lions of Gir, the Rhinoceros of Kaziranga, the Barasinga of Kanha or the Bison of Bandipur. "After all", they ask, "who is to live—man or the wild animals?"

These attitudes are neither new nor surprising because, in varying degrees, such a situation exists in almost every country of the world. It is a situation which those concerned with the cause of wildlife have to contend with. The effective way to counter it is to state the case directly and plainly.

Arguments based on the cultural, recreational and economic values of wildlife are well-known and can be easily restated. However, these do not clinch the issue. For that purpose, a more rational explanation on scientific basis is the only answer. In this connection, it is necessary to recall what the Prime Minister, Smt. Indira Gandhi, said while launching the World Conservation Strategy in India last year:

"The interest in conservation is not a sentimental one but the rediscovery of a truth well-known to our ancient sages. The Indian tradition teaches us that all forms of life—human, animal and plant—are so closely inter-linked that disturbance in one gives rise to imbalance in the other..... Nature is beautifully balanced. Each little thing has its own place, its duty and special utility. Any disturbance creates a chain reaction which may not be visible for sometime. Taking a fragmentary view of life has created global and national problems".

This statement puts, in a nutshell, the whole scientific argument in support of wildlife. After all, mankind exists as part of the biosphere, which consists of all the living and non-living elements and forms of energy on which life depends. All life on earth is interdependent and man is only a strand in this delicate web of relationships. A study of relationships clearly establishes one incontrovertible point: Man and the varied forms of life in Nature are dependent on each other for survival and the two must find ways and means of living together or ultimately there will be no life on earth. In effect, every time a species becomes extinct, a strand is snapped and man himself moves closer to his doom.

Conservationists are often expected to justify their concern about the extinction of species, based on the supposition that it is a natural phenomenon and it makes little difference to human existence, if a few species become extinct. This is a very short-sighted view for the obvious reason that species are components of ecosystems which constitute the earth, and to the extent that ecosystems are vital to human existence, the species which constitute the ecosystems are equally vital. What is more, our own species subject to evolutionary processes and the more we learn about these processes and biology, specially in nature, the better able we will be in managing our own evolution and biology. It is undeniable that an understanding of human genetics owes a great deal to knowledge of the genetics of birds and animals. Thus, the possible immediate practical value of species as well as the greater understanding of life processes, which we may learn from them, justify adequate concern for all species, with the endangered ones receiving precedence.

Nature has endowed India with such abundant and varied flora and fauna that it compares favourably with that of any other region in the world. Of course, like elsewhere, it

is in serious jeopardy by human competition for food and habitat. The two decades covering the fifties and the sixties of this century saw an attitude of total neglect and irresponsibility leading to massive and unprecedented destruction of wildlife and their habitats, a process not yet arrested. Fortunately, however, the seventies have witnessed a change of approach and a new sense of awareness in this regard-inspired no doubt by the repeated exhortations of the Prime Minister, whose commitment to the cause of wildlife is well-known. For the first time the Prime Minister has become Chairman of the Indian Board for Wildlife, which is the highest advisory body in this field in the country. Under Central guidance and leadership, steps are being taken not only to protect and preserve what remains of our fauna and flora but also to devise ways and means of augmenting this priceless natural resource. The more important measures include the enactment and enforcement of the wildlife (Protection) Act 1972; the adoption of rules under the aforesaid Act in different States; affording total protection to certain species of wild fauna; regulation of trade and restrictions on exports of threatened and endangered species, trophies and animal products with special reference to the Convention on International Trade in Endangered Species of Wild Fauna and Flora; and, above all, the setting up of more sanctuaries, national parks and zoological gardens. Efforts have also been made to enlist public support in the cause of wildlife. As a result, some of the Indian animals otherwise on the verge of extinction have been saved. The outstanding examples are the Tiger, the Indian Lion, the Great Indian Rhinoceros, the Barasinga and the three Crocodilian species found in the country. However, the overall situation continues to be a matter of serious concern and the next five years or so are bound to be crucial. It is during this period that concrete action must materialise or else a point of no return would be reached before it is too late. Proper appreciation of this fact and active public interest and involvement in the whole effort is the only way of reversing the present trends. It is only through sustained nationwide effort that these wonderful creatures can be saved from extinction.

Ultimately, it should not be necessary to plead the case for wildlife any more than it is necessary to argue for the continued existence of mankind. The plain fact is that we cannot live without it as we are a part of the unity called life on earth and if any part is injured or destroyed, the other parts will certainly be impaired in their turn. This is the truth which just cannot be wished away. As the Ishopanishads have said:

ईशा वास्यं इद सर्वं । यत्किन्स जगत्यां जगत ॥

तेन त्वक्तेन मूं जीवाः । मा मृत्र कस्यचित् घनन् ॥

(This Universe is the creation of the Supreme Power meant for the benefit of all His creations. Individual species must, therefore, learn to enjoy its benefits by forming a part of the system in close relation with other species. Let not any one species encroach upon the others' rights.)

Growth Rate of Gharial in Captivity in Uttar Pradesh

BY

SHYAM LAL

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Gharial rehabilitation was started in Uttar Pradesh in 1975. So far 1200 Gharials have been successfully reared.

Growth data of Gharials of 1st year to 6th year were collected during December 1980. The growth in length, weight, belly width and snout-vent length were tabulated and averaged. Table 1 below gives the average growth rates of the above parameters.

Table 1

Age of Gharials	Year of Hatching	Number of Gharials measured	Average growth rate of Gharial			
			Length (in cm)	Weight (in kg)	Belly width (in cm)	Snout-vent length (in cm)
1st Yr. (6 months)	1980	181	52.61	0.215	9.12	16.18
2nd Yr. (1 ½)	1979	127	91.56	3.47	17.99	32.81
3rd Yr. (2 ½)	1978	201	140.73	6.73	29.09	51.77
4th Yr. (3 ½)	1977	277	168.95	14.26	37.31	69.21
5th Yr. (4 ½)	1976	21	212.64	31.84	50.50	86.54
6th Yr. (5 ½)	1975	3	240.00	51.50	65.00	92.31

The above growth rates have been calculated on the basis of actual measurements taken at the end of growth season.

Curves were drawn from the growth records and smoothened and growth rate from one year age to 6 year age were tabulated as per Table 2 given below.

Table 2

Age of Gharials (in years)	Length (in cm)	Weight (in kg)	Belly width (in cm)	Snout-vent length (in cm)
1	76	1.00	12.00	24.00
2	120	4.25	20.00	42.00
3	158	11.00	31.00	60.00
4	190	22.25	44.00	78.00
5	220	37.50	57.00	91.00
6	250	56.00	72.00	98.00

Expenditure on food of Gharials

Gharials were fed on live fish as given in Table 3 below, subject to availability of fish.

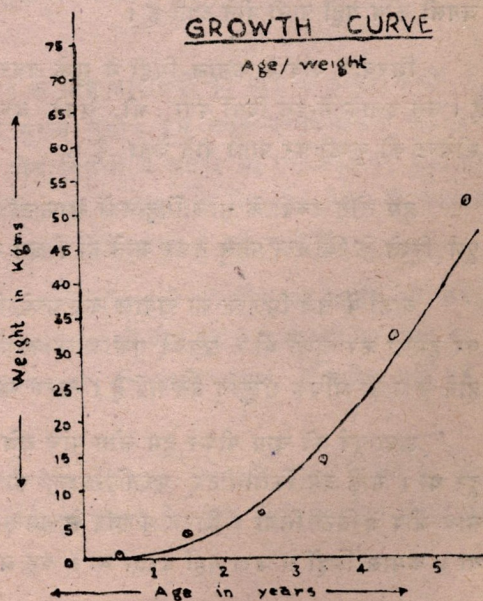
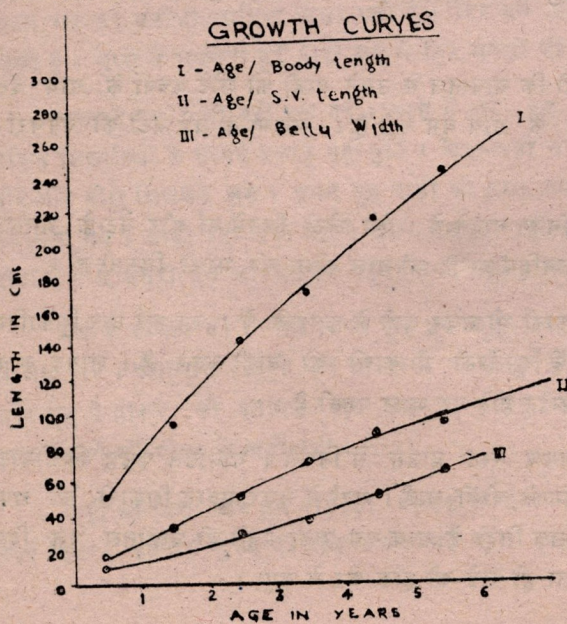
Table 3

Month	Percentage of Body Weight of Gharials
1—December, January and February	2%
2—March and November	3%
3—April and October	4%
4—May to September	5%

Considering the above growth rates and supply of fish at the rate of Rs. 4.00 per kg the expenditure per Gharial per annum upto 6th year of age is calculated and given in table 4:—

Table 4

Age of Gharial	No. of Gharials	Average Body weight (in kg)	Average quantity of fish required Per day @ 3.5% of body weight in Rs.	Expenditure per gharial per annum @ Rs. 4.00 fish supplied	Progress expenditure upto 6 years of age.
1	181	0.75	.0025	3.65	3.65
2	127	3.50	.1225	178.85	182.50
3	201	8.00	.2800	388.80	571.30
4	271	15.25	.5337	779.20	1350.50
5	21	29.25	1.0237	1494.80	2845.30
6	3	46.12	1.6142	2356.73	5202.03



बाड़ी (एक शेरनी) के बच्चों का पहला पाठ

रामेश बेदी

खोखरा के सूखे नाले में शिकार खाने के बाद प्यासे सिंह जलकुण्ड में पानी पीने लगे। मई की सख्त गरमी थी। गिर-वन में पानी के अधिक स्रोत सूख चुके थे। खोखरा के कुण्ड में जरा-सा गंदला पानी बचा था। उसमें मच्छर पल रहे थे और कीड़े तैर रहे थे। तट के पेड़ों से कुण्ड में कई प्रकार के जंगली फल, बीज और पत्ते गिरते थे। गरमी पाकर उनमें तेजी से सन्धान (फर्मेंटेशन) हो रहा था। छोटा सा कुण्ड अच्छा खासा आसव-कुण्ड बन गया था। सारा पानी कसेला आसव हो गया था। प्यासे सिंहों को इसे ही पीकर सन्तोष करना पड़ता था।

गिर के दूर-दराज जंगलों में प्राकृतिक जोहड़ों की यही दशा थी। घानातल में तो पानी का बिल्कुल अभाव था।

अभयवन के अधिकारियों ने वहाँ सीमेण्ट का एक कुण्ड बना दिया है। एक बड़े बरगद के नीचे कुण्ड रखा रहता है। छाया और पानी दोनों मिल जाने से सिंह उसके पास रहते हैं। गर्मियों में वे यहाँ अक्सर पानी पीने आते हैं। आस पास करौंड़े के झुरमुट हैं। यह जंगल सिंहनियों का प्रसवगृह बन गया है। छिपने के लिए यहाँ उन्हें घनी झाड़ियाँ मिल जाती हैं और प्यास बुझाने के लिए पानी। साम्भर, चीतल, नील गाय—अनेक जंगली जीव यहाँ पानी पीने आते हैं।

शिरवाण गाँव के कमाल सिद्दी ने मुझे खबर दी कि घानातल में उसने बाड़ी को छोटे बच्चों के साथ देखा है। उस इलाके में इन दिनों गंगा भी अपने बच्चों के साथ घूम रही है। अलका के बड़े बेटों को बनेचरों ने सीमेण्ट की कुण्डी पर पानी पीते देखा है।

हम लोग बच्चों के साथ सिंहनियों के फोटो खींचना चाहते थे। ऐसे फोटो जिनमें माँ और बेटे के वात्सल्य पूर्ण रिश्ते के विभिन्न पहलू नजर आते हों। इस महामहिम प्राणी की बाल लीला की भाँकी मिलती हो।

बाड़ी के तेज मिजाज का खयाल कर अच्छे शिकारी भी उधर जाने से कतराते थे। वह कई बार शिकारियों पर हमला कर चुकी थी। उसकी एक आँख काणी है। सोरठी में काणी को बाड़ी कहते हैं। शायद काणी होने से बाड़ी अधिक शङ्कालु बन गई है। ज़रा सा सन्देह होने पर झपट पड़ती है।

ऊषा पूर्व की चाय पीकर हम लोग पांच बजे सासण रेस्ट हाउस से निकले। घानातल पन्द्रह किलोमीटर दूर था। साढ़े दस किलोमीटर पर शिरवाण की जंगली चौकी आई। यहाँ से नज़र मुहम्मद शिकारी को अपने साथ जीप में बिठा लिया। शिरवाण गाँव से हमने कमाल सिद्दी के साथ एक पाड़ा पहले ही घानातल भेज दिया था। कमाल सिंहों से ज़रा नहीं डरता था। वह अकेला ही पाड़े को हाँक कर ले गया।

शिरवाण गाँव में अफ्रीका के हव्सी रहते हैं। इन्हें सिद्दी कहते हैं। ये लोग दो सौ साल से भी पहले यहाँ बस गये थे। इन्होंने अपनी नस्ल की विशेषताओं को अब भी बरकरार रखा है। इनमें रोगों का मुकाबला करने की असाधारण क्षमता है। पिछली शताब्दी में गिर-वन के समस्त अधिवासी जब दूषित जलवायु के कारण बुरी तरह रोगों का शिकार हो जाया करते थे, सिद्दी लोग स्वस्थ बने रहते थे।

शिरवाण से घानातल कुल चार किलोमीटर दूर है। हम जल्दी ही वहाँ पहुँच गये। कमाल अकेला ही कुएं पर पानी पी रहा था। कुएं पर एक टूटा-फूटा कनस्तर पड़ा रहता है जिसके साथ रस्सी नहीं होती। पानी निकालने के लिए लोग रस्सी अपने साथ लाते हैं। दौरे पर आया हुआ शिकारी कुएं से पानी खींच कर कुण्ड में भर देता है। पन्द्रह-बीस कनस्तरों से कुण्ड भर जाता है।

नज़र के साथ हम लोग कुएं से उत्तर की तरफ बाड़ी की तलाश करने निकले। पिछले दिन हमने बाड़ी और उसके बच्चों के पैरों के निशान यहाँ देखे थे। इसका मतलब था कि वह इन दिनों यहीं रह रही है। आज वह अब तक दिखाई नहीं दी तो हमने सोचा कि कल उसने हमें देख न लिया हो! और, शङ्कालु मन से वह कहीं दूर न निकल गई हो।

उसकी तलाश में हम घास के अन्दर आहिस्ता-आहिस्ता बढ़ रहे थे। हर सम्भावित खतरे को चौकन्नी आँखों से देखते जा रहे थे। कुएं के उत्तर-पश्चिम की ओर से गुरांती हुई बाड़ी हमारे तरफ कूदी।

कुआँ कच्चा है और पांच मीटर गहरा है। सिंहीं को उसके अन्दर गिरने से रोकने के लिए उसके ऊपर बल्ली रख कर कंटीली भाड़ियाँ बिछा रखी हैं। गिर वन में कुआँ के अन्दर सिंहीं के गिरने की घटनाएं होती रहती हैं। गुस्से में लपकती हुई बाड़ी कुएं में गिर सकती थी।

घमकाने पर बाड़ी वहीं रुक गई। गुस्से में भरे हुए गिर के सिंह आदमियों को मार भी डाला करते हैं, लेकिन शिकारियों के सामने बेकाबू नहीं होते। खड़ी-खड़ी बाड़ी गुराने लगी। हम उसके सामने अचल खड़े थे। धीरे-धीरे पीछे खिसकने लगे। हमने मुंह बाड़ी की तरफ रखा, पीठ दिखाने में खतरा था। फासला बढ़ जाने पर हम लौट गये। बाड़ी वहीं खड़ी रही। हमें देखती रही। लॉयन शो में आने वाले सिंहीं का ऐसा ही बरताव होता है। वे कैमरा मैन को देखकर सहसा भगते नहीं। चारा मिलने की आशा में रुके रहते हैं।

भैंस के रम्भाने की आवाज़ करते हुए हम कुएं पर लौट आये और पाड़े को हांक कर बाड़ी की तरफ ले जाने लगे। कमाल ने पाड़े के गले की रस्सी पकड़ी हुई थी। नज़र उसकी पीठ पर छड़ी मारता जा रहा था। और मुंह से हांकने की आवाज़ कर रहा था। इन क्रिया-कलापों से बाड़ी जंगल में वापिस नहीं गई। पाड़ा मिलने की आशा से खड़ी रही।

बाड़ी को दिखा कर हम पाड़े को वापिस ले आये। पग में रस्सी बांध कर उसे कीकर के तने के साथ बांध दिया। इतने में सूरज की रोशनी फैल गई थी। हम पाड़े से दूर बरगद के नीचे खड़े हो गये। बाड़ी भट

आ गई, वह भूखी थी। पाड़े की पीठ की तरफ से बढ़ी। अपने अगले पंजे उसकी पीठ पर टिकाये और उसे दबोच लिया। उसके बोझ से पाड़ा गिरने लगा। उसी समय बाड़ी ने मुख से उसकी गरदन पकड़ ली। भटक कर पाड़े को खींचना चाहा। वह जोर से भटके मार रही थी, लगता था कि रस्सी टूट जायेगी। वह पाड़े को घने भुरमुटों के अन्दर ले जाना चाहती थी जिससे एकान्त में खा सके। उसकी कोशिश सफल हो जाती तो हमारा सब काम खराब हो जाता। हम कुछ भी नहीं देख पाते। बाड़ी के बच्चों को भी नहीं। हमने नजर से पूछा—बाड़ी को भगा कर पाड़े को फिर मजबूती से बांध दें ?”

उसने कहा—“कोई जरूरत नहीं, वह रस्सी तोड़ सकती तो अब तक तोड़ चुकी होती।”

बाड़ी समझ गई कि रस्सी मजबूत है, टूटेगी नहीं। उसने गरदन भींच कर पाड़े को मार दिया। कुछ देर तक दांतों को गरदन पर गाड़े रखा, सशक्त बांहों से शरीर को काबू में रखा। पाड़ा निश्चेष्ट हो गया। उसे छोड़ कर वह चली गई।

कुएं के दाईं तरफ पांच मीटर की दूरी पर पलाश की एक झाड़ी थी। उसकी टहनियां जमीन को छू रही थीं। बाड़ी उधर चली गई। वहां उसके बच्चे छिपे थे। मां को देख कर बोलने लगे। उनकी आवाज हमें सुनाई दे रही थी। बाड़ी उनके साथ लेट गई। दो बच्चे हमें साफ दिखाई दे रहे थे। तीसरा सबसे छोटा था और अधिक शर्मीला था। वह झाड़ी से बाहर नहीं निकल रहा था। आठ-दस मिनट तक वह उनके साथ रही। बच्चे हमारी तरफ भांकते रहे। तीसरा बच्चा बार बार मां को पुकारता था। मां गरदन घुमा कर उसे देख लेती थी।

नजर ने बाड़ी के ये बच्चे पहली बार देखे थे। वह खुशी में कहता था—“बिल्ली जैसे नाने-नाने पाटड़े कैसे प्यारे बोलते हैं।” सोरठी में सिंह के बच्चे को पाटड़ा कहते हैं। विस्मयपूर्ण मुस्कान के साथ नजर अपनी काली मूछों पर हाथ फेरता हुआ पाटड़ों पर नजर गाड़ देता। नजर जिन्दा दिल शिकारी था। दूसरे शिकारियों पर उसकी सूझ बूझ और होशियारी की धाक थी। सिंह के पैरों के निशानों को देख कर या उसकी गरज को सुन कर वह बता देता था कि यह फलां सिंह है। उसने कमाल सिद्दी की इस दिलचस्प बात की तसदीक की कि बाड़ी के साथ जो दो बच्चे बैठे थे वे उसके अपने नहीं थे। वे गंगा के हैं। गंगा उसकी बहिन है। गंगा के बच्चे लाँयन शो में अपनी मां के साथ अक्सर जाते रहते हैं, इसलिए वे अपेक्षाकृत निडर हैं। बाड़ी के बच्चे लाँयन शो में नहीं जाते इसलिए वे डरते हैं। तीसरा बच्चा बाड़ी का था। इन दिनों गंगा और बाड़ी दोनों के तीन-तीन बच्चे थे। इनमें से गंगा के दो बच्चे बाड़ी के पास और बाड़ी के दो बच्चे गंगा के साथ रहते थे।

तीसरा बच्चा धीरे-धीरे आगे बढ़ कर अपने मौसरे भाइयों के साथ बैठ गया। ये बच्चे ढाई-तीन महीने के होंगे। तीनों बच्चे हमें देखते रहे। बाड़ी उठी। उसने बच्चों के साथ मुंह रगड़ा, प्यार किया, फिर पाड़े के पास अकेली आ गई। बच्चे एकटक हमें देख रहे थे। वे अब बाड़ी की गौर करने लगे। वह उन्हें महत्वपूर्ण डिमोन्स्ट्रेशन दे रही थी। विपदाओं से भरे जंगल में अपना अस्तित्व बनाये रखने के लिए सुकुमार बच्चों को ये बातें जल्दी ही सीखनी हैं।

बाड़ी ने मारण को गरदन से उठा कर तीन-चार झटके दिये। रस्सी नहीं टूटी। वहीं बैठ कर खाने लगी। पहले पेट का निचला भाग चीरा। छोटी आंतों और आमाशय को फेंक दिया। बड़ी आंतों को मुंह से सूँघ कर गन्द निकाल दिया और आंतों के कुछ टुकड़े खा गई। सूँघने में वह जीभ की मदद लेती थी। मैंने देखा है कि सिंह बहुत भूखे न हों तो आंतों और आमाशय को नहीं खाते। पेट फाड़ कर इन अंगों को एक ढेरी में छोड़ देते हैं।

बाड़ी बीच-बीच में बच्चों को देख लेती थी। उसे बड़े सिंह और गुलदार दोनों से खतरा था। इनको मौका मिल जाय तो ये बच्चों को मार डालेंगे। गुलदार बच्चों को खा जायगा। बड़ा सिंह मारण को भी छीन लेगा। बाड़ी को लुटेरे गुलदारों का बुरा अनुभव था। एक व्यात में उसके प्रसव गृह के पास लॉयन शो किया जा रहा था। सिंहीं को लुभाने के लिए एक बड़ी भैंस शो में दिखाई जा रही थी। बाड़ी अपने पन्द्रह दिन के बच्चों को छोड़ कर आहार की तलाश में दूर नहीं जाया करती थी। भरपूर आहार मिलने की आशा में वह शो में शामिल हो गई। गंगा से अलग मेण्डल की झाड़ी के नीचे बैठ गई। उसके कान प्रसव गृह की तरफ लगे थे। आवाज सुन कर वह उधर दौड़ी। एक गुलदार उसके बच्चों को उठा रहा था। दोनों में लड़ाई छिड़ गई। मदद के लिए गंगा आ गई। जल्दी होकर गुलदार भाग गया। घमासान लड़ाई में बाड़ी की दाईं आंख फूट गई। गुलदार ने उसका एक बच्चा भी मार दिया।

बाड़ी ने पेट के ऊपर की खाल फाड़ कर अन्दर के गोشت को उधाड़ दिया। घावों से खून निकलने लगा। उसे चाटने के लिए उसने बच्चों को बुलाया। वे नहीं आये तो उठ कर गई। गंगा के दोनों बच्चे उसके पीछे चले। आधे रास्ते में एक बैठ गया और हमें देखता रहा। वह उसे आगे आने के लिए बार-बार कहती थी। नाजुक बच्चों का यह पहला पाठ था। दिलचस्प शुरुआत थी। जंगल के ओजस्वी राजा की सन्तान फूक-फूक कर कदम रख रही थी। मैंने जंगल में कायर गीदड़ों को भी अपने बच्चों को पालते देखा है। उन बच्चों में हर चीज के प्रति अज्ञात भय बैठा रहता है। वे हर बात को सन्देह से देखते हैं। भीरुता साया की तरह उनके साथ रहती है। यह सब कुछ मैंने प्रतापी सिंहनी के इन बुजदिल बच्चों में भी देखा। जोखिम भरे जंगल में कामयाबी से बढ़ने का राज यही है। मां से समुचित प्रशिक्षण पाते हुए और घटनाओं से धीरे-धीरे सीखते हुए सिंह की सन्तान में शौर्यता, वीरता और ओजस्विता आ जाती है।

मां की बात मान कर एक बच्चा उसके साथ आ गया और खून चाटने लगा। कुछ देर बाद दूसरा बच्चा आया तो पहला बच्चा भाग कर झाड़ी में चला गया। दूसरा बच्चा खून चाटने लगा। अपने भाई को बेफिक्री से मारण पर देख कर पहला बच्चा लौट आया। दोनों भाई दावत उड़ाने लगे।

बड़े सिंह आम तौर पर रान के ऊपर से चमड़ा फाड़ कर गोشت खाना शुरू करते हैं। घानातल में अलका के बड़े बेटे को एक बार मैंने देखा कि वह इत्मिनान से पाड़े के पास खड़ा हो गया। मानो उसका कुशल मंगल पुछ रहा हो। वह उतावली से उस पर लपका नहीं।

ये बच्चे इतने छोटे थे कि सुपुष्ट गोश्त नहीं खा सकते थे। इसलिए बाड़ी ने उनके लए जिगर के ऊपर स खाल उतार दी थी। बच्चे जिगर के नरम लोथड़ों में बार बार दांत मारते थे। वे बड़े चौकन्ने थे और बार बार हमें देख लेते थे। बाड़ी गोश्त को खाने में लीन थी। बच्चे कौतुकवश मारण के ऊपर चढ़ जाते थे और जहां-तहां खून को चाट लेते थे। वे उसके मुंह के ऊपर नहीं जाते थे, उससे डरते थे। बड़ा सिंह कई बार लम्बे सींग वाली बड़ी भैंस को मुंह से खाना शुरू कर देता है।

घूप तेज हो गई। बच्चों से बर्दाश्त नहीं होती थी। वे भाड़ी की छाया में चले गये। बाड़ी खाती रही। हवा में गरमी बढ़ जाने पर वह भी बच्चों के पास भाड़ी में चली गई। हमने लौटने का प्रोग्राम बनाया। मारण के पैर में से रस्सी खोली और चल पड़े। करौंदे की पहली भाड़ी के पीछे पहुंचे ही थे कि बाड़ी अपनी जगह से उठी और मारण की तरफ बढ़ी। यकायक बीच में रुक गई और आश्चर्य होने लगी कि हम लोग चले गये हैं।

हम लोग करौंदे की ओट में छिप गये। बाड़ी मारण पर आ गई थी। उसने मुआयना किया कि कहाँ स पकड़ा जाय। गरदन से उठा कर उलटा खींचने लगी। उसने अपना मुंह हमारी तरफ रखा। उसे खटका न होता तो वह टांगों के बीच में मारण को सीधा घसीट कर ले जाती। इस तरह घसीटना आसान था। वह उसे कुएं के दाईं तरफ ले गई। उधर करौंदी की चार भाड़ियों से घना झुरमुट बना हुआ था जहाँ बिल्कुल घूप नहीं आती थी।

शाम को हम फिर देखने आये। करौंदी की भाड़ियों के अन्दर सागवान के टूटे हुए तने के ऊपर एक बच्चा सुस्ता रहा था। दूसरे बच्चे भाड़ियों में छिपे थे। उनकी तलाश में हम आगे नहीं बढ़े। हमें डर था कि पाड़े की अघखाई लाश को बचाने के लिए बाड़ी झपट न पड़े। हम डरे पर लौट आये।

Ramesh Bedi and His Book on Wildlife

We have inherited a rich and beautiful wildlife in our forests. About 500 species of mammals and 2000 species of birds are found in India.

With the increase of population, expansion of cultivable land and establishment of factories the forests have been cut down. The animals have been driven out and, with the introduction of effective killing fire arms, the dumb animals have been ruthlessly killed and very much reduced in number.

Akbar kept 1000 cheetahs which were used in shikar. This indicates that there were plenty of cheetahs in those days, but now this famous and well known animal of India has been wiped out entirely. The last three cheetahs were shot in 1947 by using artificial light at night in former Korea State north of Bastar. The Asian lion used to be very common in India and roared over most of north India. Around the middle of the last century a shikari shot over 300 of them, fifty of which were in the vicinity of Delhi. Now they have been confined to the Gir forest of Gujarat where about 200 lions are surviving.

About 5000 years ago rhino existed in the plains of the Indus river around the ancient town of Mohanjodaro. The invading Temur killed many rhinos on the frontier of Kashmir in 1398. Now it is restricted to a part of Nepal, West Bengal and Assam. Towards the turn of this century tiger population was about 50,000 which has come down to 2000. Black-necked crane was the winter visitor in Arunachal Pradesh and in certain lower areas of Bhutan till 1946. After that ornithologists were silent about its whereabouts. Dr. Salim Ali, who led an expedition to search this elegant crane, could see only five birds in Changthang area of Ladakh. The fate of mountain quail, Jerdon's coarser and pink headed duck is even more unfortunate. They are not seen since 1876, 1900 and 1935 respectively.

This is the story of our wildlife in general. Lovers of wildlife have raised their voice to conserve them. They feel that despite man's increasing pressure on earth, animal and man both have the right to live in harmony.

An old young man of 66, Dr. Ramesh Bedi has devoted himself to the cause of wildlife. He was brought up and he received medical (ayurvedic) education in the residential university of the famous Gurkul Kangdi situated in the foothills of the Himalayas. Since his childhood he came in close contact with animals which moved freely around him in the forest. He established friendship with them. He feels that these wild animals are normally not so dangerous as they are thought of. His pet python has often appeared on television. His seven-foot dhamans and Tibetan apsus behaved well in television studios. Civet, mongoose,

pigeons, peacocks, rabbits, chameleon, tortoise were allowed to rest in places of their choice in his house. He kept parrots, falcons, hornbills, cobras and many other snakes and animals.

For the last thirty five years he is pleading for conservation of these animals through the media of press, radio and television. He continues to be an honorary member of Wildlife Preservation Society of India almost since it came into existence. He still spends lots of time in the forests to watch the animals. He talks on radio about his thrilling experiences. He gives television programmes and writes in newspapers and periodicals. Forty books are to his credit—twenty five on plants and fifteen on animals.

“Vanya Jivon Ka Sansar” (The world of Wildlife) is his latest book in Hindi published by Rajpal & Sons, Kashmeri Gate, Delhi under the sponsorship of Central Hindi Directorate Govt. of India, New Delhi. It deals with twenty one animal species including lion (our national emblem), tiger (our national animal), elephant (the lord of the jungle), cheetal (the most beautiful deer), musk deer (a delicate creature hunted for its perfume pod).

Dr Bedi tells about the characters, habits, habitats, family life, food in nature and captivity, young ones, parental care and behavior of these animals with man. His keen observations are very useful for lovers of wildlife. His style is simple and language easy, His approach is scientific. He has profound knowledge of Sanskrit literature and has enriched the book with suitable references.

The book has won the first cash prize of Rs. 5,000/- in All India Competition held by the Forest Research Institute & Colleges, Dehradun and also received cash prize of Rs.1,000/- awarded by the Government of Uttar Pradesh.

The Wildlife Preservation Society of India

1. The aims and objects of the Society are :—

- (a) To promote interest in and impart knowledge regarding the preservation and conservation of all forms of wildlife, particularly among the youth of the country.
- (b) To co-operate with the Govts. of India and States and with other Societies and Institutions having similar aims and objects in working for the interests of wildlife.
- (c) To assist in enforcing and actively supporting the Forest Acts, Wild Birds and Animals Protection Acts and Rules etc. of States and the Indian Arms Act and Rules in so far as they pertain to wildlife and to bring to the notice of the authorities any infringement of the same and to assist in the detection and prosecution of offenders in respect of such laws.
- (d) To advise and help the Govt. and wildlife administrators in the formation, maintenance and protection of Sanctuaries and National Parks, the preservation of wildlife in general and rare species of India in particular and in the introduction of exotic species into the country, the rehabilitation of rare species etc. and in the revision on rational lines of the shooting and fishing rules, so as to conserve and increase wildlife stocks.
- (e) To raise funds for the carrying out of the above aims and objects and to found and maintain museums, reading rooms and libraries of natural history in order to disseminate knowledge regarding wildlife.
- (f) To promote sportsmanship in shikar and to recognise well regulated shooting and fishing, as a means of preserving wildlife and fish so that through wise use the surplus may provide a recreational asset to the nation.
- (g) To carry out publicity and propaganda for the preservation of wildlife in India by means of monographs, journals, films, film strips and other feasible methods.
- (h) To assist members of the Society in obtaining shooting and fishing facilities and facilities for viewing and photographing wildlife in India.
- (i) To conduct research into the problem of Wildlife management in India, and in pursuance of this, to initiate, encourage and, where possible assist in projects for the study of threatened species and related subjects and to provide reference and research facilities for such work.
- (j) To carry on such other activities which will serve the above subjects.

What membership of Wildlife Preservation Society of India will entitle you to ?

1. You will become an active member of the growing group of Wildlife enthusiasts, who enjoy working for and spreading the knowledge of how to conserve India's heritage of Wildlife for posterity.
2. You will be entitled to the full use of the library of the Wildlife Preservation Society and of its reading room.
3. You will receive a membership certificate.
4. You will receive personal Identification and Membership card.
5. You will be entitled to buy all publications of the Society at a concessional rate.
6. You will be entitled to buy at concessional rates the Society's Tie, and the Balance of Nature Game (specially published in colour for its educative and recreational value).
7. You will be supplied "Cheetal", journal of the Society free.

For membership particulars write to Honorary Secretary, Wildlife Preservation Society of India, 7 Astley Hall, Dehra Dun.



Uttar Pradesh's
Twin Attractions

FOR LOVERS OF WILDLIFE
CORBETT NATIONAL PARK
DUDWA NATIONAL PARK

Corbett National Park is famous all over the world for its scenic grandure and its wildlife—elephant, tiger, deer (several species) and a host of other mammals, birds and reptiles—the Ghariyal and snubnosed crocodiles and the mighty “Mahasheer” fish.

DUDWA Sanctuary now National Park famous for its only surviving herd of 2000 Swamp deer, Tiger, Spotted deer, Sambhar, Hog deer, Barking deer, Sloth bear, Wild boar, Marsh crocodile and hundreds of colourful birds. It is a paradise for bird watchers. *Conducted tours arranged.*

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CONSERVATOR OF FORESTS

Wildlife Preservation Organisation

17, Rana Pratap Marg,

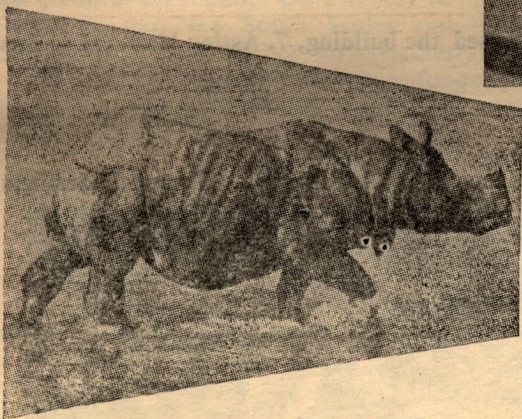
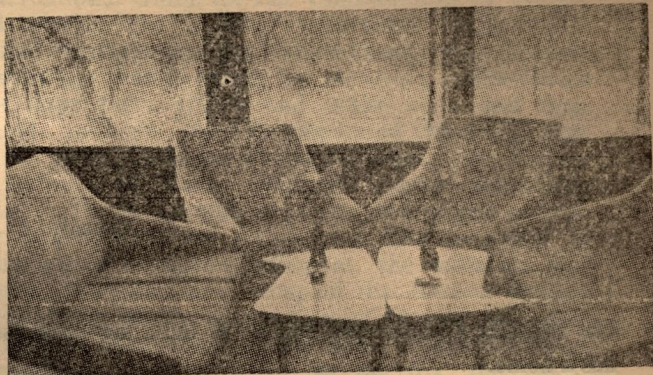
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(Phone C.B. 247)
WEST BENGAL**

OR

**FOREST UTILISATION OFFICER
8, Lyons Range, CALCUTTA
(Phone 22-2774)
WEST BENGAL**

Appeal

The Wildlife Preservation Society of India has purchased the building, 7, Astley Hall and so now has a home.

Part of the purchase price has been paid and the balance has still to be paid. Patrons, Members, and sympathisers are requested to donate generously so that balance may be paid soon.

Donations, big and small, may please be sent to the Wildlife Preservation Society of India, 7, Astley Hall, Dehra Dun, U.P. (India).

All donations will be gratefully acknowledged and the names of donors published in **CHEETAL**.

PRESIDENT
and
The Executive Committee

Rare Australian Wallaby Rediscovered

One of Australia's most beautiful marsupials, thought to be threatened with extinction, has been found in remote parts of the Flinders Ranges, north of Adelaide, the South Australian capital. It is the yellow-footed rock wallaby (*Petrogale xanthopus*)—a smaller version of the Australian kangaroo. According to the International Union for the Conservation of Nature Red Data Book—a directory of endangered species—the wallaby is declared “vulnerable”. The administrators of the World Wildlife Fund Australia and the Nature Conservation Society of South Australia mounted a \$A23 000 survey last year to search for surviving yellow-footed rock wallabies (yellow hind feet and forelegs, large furry yellow and white ears, and rings along the tail). After 112 days in the field, zoologist Peter Copley found 180 colony sites each supporting between about 25 and 50 wallabies in the Flinders Ranges. Mr. Copley said that their habitat did not appear to be seriously threatened and that regular monitoring work should ensure their continued well-being. The senior curator of vertebrates and geology at the South Australian Museum, Mr. Peter Aitken, said the species was first described in 1854 by British zoologist John Gray. At the time of European settlement, the wallabies had been plentiful throughout the Flinders Ranges. They had also occupied the Barrier Ranges in north-western New South Wales and the Grey Range in south-west Queensland. But because of pastoral, mining and agricultural exploitation, coupled with indiscriminate shooting, and the introduction of exotic weeds, fodder plants and animals such as the fox, the rabbit and the goat, the wallabies had declined in numbers and in the extent of their usable habitat.

THE YELLOW-FOOTED ROCK WALLABY



COURTESY : AUSTRALIAN INFORMATION SERVICE



बाड़ी और उसका बच्चा शिकार पर । बच्चा गोشت को चाट रहा है ।

कौपीराईट फोटो : राजेश वेदी



Nilgiri Tahr (Sub adult)

Photo by E.R.C. Davidar